МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ХАРКІВСЬКИЙ НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ
МІСЬКОГО ГОСПОДАРСТВА імені О. М. БЕКЕТОВА

МЕТОДИЧНІ ВКАЗІВКИ ДО ВИКОНАННЯ

КОНТРОЛЬНОЇ РОБОТИ

З ДИСЦИПЛІНИ

«ДІЛОВА ІНОЗЕМНА МОВА» (АНГЛІЙСЬКА МОВА)

(для студентів 5 курсу заочної форми навчання напряму підготовки 7.08010105 «Геоінформаційні системи і технології»)

Харків
ХНУМГ
2014

Методичні вказівки до виконання контрольної роботи з дисципліни «Ділова іноземна мова» (англійська мова) для студентів 5 курсу заочної форми навчання спеціальності 7.08010105 «Геоінформаційні системи і технології» / Харк. нац. ун-т міськ. госп-ва ім. О. М. Бекетова; уклад.: А. М. Крохмаль. – Х.: ХНУМГ, 2014. – 19 с.

Укладач: А. М. Крохмаль

Методичні вказівки призначені для організації практичної та самостійної роботи студентів згідно із затвердженою робочою програмою навчальної дисципліни «Ділова іноземна мова», укладеною відповідно освітньо-кваліфікаційним вимогам до знань і вмінь студентів напряму підготовки «Геоінформаційні системи і технології».

Рецензент: канд. філол. наук, доцент кафедри іноземних мов ХНУМГ
О. Л. Ільєнко

Рекомендовано кафедрою іноземних мов,
протокол № 1 від 28.08.2012 р.

Методичні рекомендації для студентів

Перед тим як виконувати контрольну роботу студенту необхідно докладно вивчити граматичний матеріал, для чого надається список рекомендованих джерел з граматики англійської мови. Перекладаючи текст, слід користуватися англо-українським словником.

Роботи студентів повинні відповідати наступним вимогам:

а) перша сторінка зошита залишається вільною для рецензії викладача. У зошиті повинні бути поля для зауважень та рекомендацій рецензентів;

б) вся контрольна робота виконується в зошиті в *лінію*;

в) завдання (Tasks) переписуються в зошит; завдання (Tasks) перекладати рідною мовою не потрібно;

г) матеріал контрольної роботи слід розміщати у зошиті за наступним зразком:

Текст на англійській мові	Текст на рідній мові	Поля

д) виконуючи лексико-граматичні завдання кожне речення потрібно переписувати у зошит та перекладати на рідну мову;

е) перекладаючи *текст* з англійської мови на рідну, кожне речення слід писати *з нового рядка*: речення на англійській мові – з лівої сторони, а переклад – з правої сторони сторінки зошита.

Перевірена контрольна робота повинна бути виправлена студентом згідно з вказівками рецензента, а недостатньо засвоєні теми семестру слід проробити додатково перед усним заліком.

Якщо контрольна робота виконана без дотримання вказівок чи не повністю, вона повертається студенту без перевірки.

Студенти, які не захистили контрольну роботу, не допускаються до заліку (чи до екзамену) за відповідний навчальний період.

Номер варіанта, який виконує студент заочного відділення, визначається за останньою цифрою номера залікової книжки: 1, 2 – ***варіант 1***; 3, 4 – ***варіант 2***; 5, 6 – ***варіант 3***; 7, 8 – ***варіант 4***; 9, 0 – ***варіант 5.***

Приклад оформлення контрольної роботи:

Контрольна робота № … варіант .....

з дисципліни …….

……(англійська мова)

студента заочної форми навчання ……. курсу

спеціальності .....

……..

(прізвище, ім’я та по батькові)

шифр залікової книжки .....

Контрольне завдання 1

Для того, щоб виконати контрольне завдання **1**, необхідно повторити наступні розділи курсу англійської мови:

1. Складні форми інфінітиву (Present Infinitive Passive, Perfect Infinitive Active/ Passive). Звороти, рівнозначні підрядним реченням: об'єктний дієприкметниковий комплекс, суб'єктний дієприкметниковий комплекс.
2. Прислівник (Participle I, Participle II; Perfect Participle Active/Passive). Залежний та незалежний дієприкметниковий комплекс.
3. Умовні підрядні речення.
4. Узгодження часу.

Варіант 1

Task 1. Give the written translation of the following sentences into your native language. Underline and define the forms of the Infinitive .

1. A first question that might be asked about the database is 'What are the extremes of the data?'
2. Obviously we need to see what a good reading looks like and how it can be distinguished from the remainder of the readings.
3. The final step that we can put these elevation values through is to do statistical tests.
4. We could consider our sample as representative of all coastal area elevations in Southern California.
5. We can use a statistical model of the bell curve, called the standard normal distribution.

Task 2. Give the written translation of the following sentences into your native language. Underline the forms of Participle I and Participle II.

1. A histogram is a two-dimensional plot of attribute values grouped by magnitude and the frequency of records in that group, shown as a variable-length bar.
2. The values were converted to meters using the same tables as above, and the square root of the sum taken.
3. We can also divide the area of the bounding rectangle into the area, a space-filling index with a maximum value of 1.
4. For coordinates, data extremes define the two corners of a bounding rectangle.
5. A centroid is any point chosen to represent a higher-dimension geographic feature, of which the mean centre is only one choice.

Task 3. **Put the verbs in brackets into the correct tense form and underline them. Mind the Sequence of Tenses.**

1. A first descriptive question about the data beyond the ranges (to be)_____: What (to be)_____the elevations of the point that were sampled?

2. The numbers in the statistical table (to be)_____ the amount of area beneath the standard normal curve that (to correspond) _____ to probabilities.
3. For coordinates, the means and standard deviations (to correspond)_____ to the mean centre and the standard distance, both of which (to be)_____ good descriptors of spatial properties**.**
4. Over the years, the designers of GIS and computer mapping packages (to devise)_____ an amazing number of ways that maps can (to convert)_____ into numbers.

Exercise 4. Read the text. Find the English equivalents to the following terms.

1. настольное картографирование _____
2. предметная карта _____
3. диаграмма линий уровня
4. _____
5. диаграмма поперечного сечения _____
6. трехмерный _____
7. подходящая цветовая схема _____
8. ошибочная карта, карта с ошибками _____

Most of the display capabilities of GISs have been covered. GIS systems need to be able to perform what has become called *desktop mapping,* generating geographical and thematic maps so that they can be integrated with other functions. GISs typically can create several types of thematic mapping, including proportional symbol maps; and they can draw isoline and cross-sectional diagrams when the data are three dimensional.

Almost all GIS packages now either allow interactive modification of map elements moving and resizing titles and legends—or allow their output to be exported into a package that has these capabilities, such as Adobe Illustrator or Corel Draw. A very limited few GIS packages include cartographic design help in their editing of graphics, defaulting to suitable color schemes, or notifying the user if an inappropriate map type is being used for the data. This would be a desirable feature for many of the GISs on today's market and could avoid many tasteless or erroneous maps before they were created.

Exercise 5. Complete the sentences with the following words:

statistics analysis information histogram database geography GIS map features

1. For this _____ we need some _____.
2. According to official _____ the disease killed over 500 people.
3. An interesting _____ of the city is the old market.
4. The book is an _____ of poverty and its causes.
5. Can you find Clack hill on the _____?
6. For further _____, write to us at this address.

7. Kim knew the _____ of New York City very well.

Exercise 6. Read and translate key terms and definitions.

Histogram – a graphic depiction of a sample of values for an attribute, shown as bars raised to the height of the frequency of records for each class of group of values within the attribute.

GIS – geographic information systems.

Geography – a field of study based on understanding the phenomena capable of being described and analyzed with a GIS.

Statistics – a collection of information shown in numbers.

Information – facts or details about somebody or something.

Task 7. Read the text. Write down the text and give the written translation into your native language.

In the early days of GIS, much criticism was made of the fact that GIS software rarely came with any true analytical options. As we have seen, the basic tools of description are those of arithmetic and statistics, and the tools of modeling involve allowing the encoding of a model or formula into the system. Omitted here have also been models based entirely on the geographic distribution. Many models work on network flows, dispersion in two - or three dimensional spaces, hierarchical diffusion, or probabilistic models based on weights determined by buffers, and so on. This sort of model is manageable in a GIS using the tools of retrieval: overlay, buffering, and the application of spatial operators. Even a simple model, however, can become a quite lengthy sequence of steps for the GIS's user interface.

Almost all GIS packages allow operations to be bundled together as macros or as sequences of operations as part of a model, such as in the GISMO options. Although this goes a long way toward routine analysis, exploratory GIS data analysis is still something of an art. Many operations can be performed in the database manager only, and often GIS users move the data from the database manager into a standard statistical package such as SAS (Statistical Analysis System) or SPSS (Statistical Package for the Social Sciences) for analysis. One GIS (Arc/Info) offers a direct link to another statistical package (S-Plus) as an option.

Task 8. Translate the following sentences into English.

Геоінформаційні системи (ГІС) - це інтегровані в єдиному інформаційному середовищі електронні просторово-орієнтовані зображення (карти, схеми, плани тощо) і бази даних (БД). В якості БД можуть використовуватися таблиці, паспорти, ілюстрації, розкладу і т. п. Така інтеграція значно розширює можливості системи і дозволяє спростити аналітичні роботи з координатно-прив'язаної інформацією.

ГІС характеризуються такими позитивними моментами:

• наочність представлення семантичної інформації з БД за рахунок відображення взаємного просторового розташування даних

• збільшення інформаційної ємності продукту за рахунок зв'язку просторово-

орієнтованих зображень із семантичною інформацією з БД
• поліпшення структурованості інформації і, як наслідок, підвищення ефективності її аналізу та обробки

Варіант 2

Task 1. Give the written translation of the following sentences into your native language. Underline and define the forms of the Infinitive .

1. This distribution, provided in most statistical textbooks, allows us to look up the standard deviation and the number of records.
2. We can determine whether the largest and smallest measured elevations are reasonable.
3. GIS data description is different from statistics because the results can be placed onto a map for visual analysis.
4. A test of means can establish whether two samples from a population are different from each other, or whether the different measures they have are the result of random variation.
5. The value plotted for each point is the difference in latitude and longitude for each point, squared to get rid of negatives

Task 2. Give the written translation of the following sentences into your native language. Underline the forms of Participle I and Participle II.

1. GIS statistical computations are most often done using retrieval options such as buffer and spread, or by manipulating attributes with arithmetic commands.
2. One of the oldest analytical methods used in GIS is map overlay.
3. There are many ways that the conversion of a visual or printed map to a set of digits can be done.
4. Retrieval operations involve searching for segments or nodes, adding or deleting nodes, redirecting flows, and routing.
5. GIS systems need to be able to perform what has become called desktop mapping, generating geographical and thematic maps so that they can be integrated with other functions.

Task 3. **Put the verbs in brackets into the correct tense form and underline them. Mind the Sequence of Tenses.**

1. Quite likely, the reception problems of the GPS system _____(to have) something to do with it but there is also clearly a measurement error in terms of accuracy that far _____(to exceed) the precision of the elevation reading.
2. We could safely _____(to eliminate) these numbers and probably correctly _____(to believe) them to be wrong.
3. If we _____(to have) two readings only, and they disagree, we _____(probably to average) them.
4. An advantage is that this _____(to be) a ‘real’ typical value because it _____(to be) an actual part of our data set.

Exercise 4. Read the text. Find the English equivalents to the following terms:

1. система управления базой данных _____
2. набор программного обеспечения _____
3. формат плоского файла _____
4. ячейки памяти _____
5. ввод данных _____
6. функции поиска _____
7. сортировка данных _____

Much of the power of GIS software comes from the ability to manage not just map data but also attribute data. Every GIS is built around the software capabilities of a database management system (DBMS), a suite of software capable of storing, retrieving selectively, and reorganizing attribute information. The database manager allows us to think that all the data are available, that the data are structured in a simple flat-file format, and that they constitute a single entity. In fact, the database manager may have partitioned the data between files and memory locations and may have structured it in any one of several formats and physical data models.

A database manager is capable of many functions. Typically, a DBMS allows data entry, and data editing, and it supports tabular and other list types of output, sometimes independent of the GIS. Retrieval functions always include the ability to select certain attributes and records based on their values. For example, we can start with a U.S. database, and select out all records for states containing cities with over one million inhabitants, forming a new database that is wholly enclosed by the original and that duplicates part of it. We can also perform functions such as sorting data by value, and retrieving a selected record by its identification, such as a name or a number.

Exercise 5. Complete the sentences with the following words:

temporally *thematically* *permanent* *reference map* *topographic map* *map* *network map*

1. A _____ is often used as reference information behind GIS map layers.
2. Can you find Black Hill on the _____?
3. The accident has not done any _____ damage.
4. A _____ shows the simplest properties of the map data.
5. The maps have been grouped _____.
6. More than half the staff is _____.
7. A _____ shows a set of connected lines with similar attributes.

Exercise 6. Read and translate key terms and definitions.

Attribute – a quality or feature of somebody or something.
Concept – an idea or a principle that is connected with something.
Range – the distance over which something can be seen or heard.
Deviation – the act of moving away from what is normal or acceptable.
Latitude – the distance of a place north or south of the equator.

Task 7. Read the text. Write down the text and give the written translation into your native language.

One of the oldest analytical methods used in GIS is map overlay. Map overlay is the set of procedures by which maps with different themes are brought into geometric and scale alignment so that their information can be cross referenced and used to create more complex themes. We have met the method already several times, and should recall that the maps to be overlain must be of the same spatial extent, on the same map projection and datum, be at comparable granularity (that is, the spatial units, whether pixels or polygons, should be about the same average size), and if the layers are to be used with map algebra, at the same raster grid size and resolution.

The power of the GIS is in handling the geometry of the overlay process. Handling and preparing the themes is up to the GIS analyst. Under the simplest possible configuration, GIS layers are all converted to binary maps, and an overlay then sifts the map space to leave open the areas that satisfy the selection criteria in use. This is the case in the simple overlay analysis and duplicates in the GIS methods that were worked out using transparent overlay maps and blacked out areas on the transparencies. Many of these methods date back to the turn of the twentieth century.

Task 8. Translate the following sentences into English.

Традиційний набір функцій ГІС при роботі з картою включає: показ карти в різних масштабах, вибір набору шарів інформації для показу, залежність зовнішнього вигляду об'єктів від їх семантичних характеристик, оперативне отримання інформації про об'єкт при виборі його курсором миші, можливість роздрукувати будь-яких фрагментів карти. Перерахувати всі сфери можливого застосування ГІС важко. Найбільшого поширення вони одержали в наступних галузях:

• землеустрій (земельні кадастри)
• муніципальне господарство
• енергетика
• транспорт і зв'язок

На вітчизняному ринку створення ГІС стримується дорожнечею спеціалізованих програмних засобів, тривалими термінами розробки і високими вимогами до "комп'ютерної"кваліфікації персоналу.

Варіант 3

Task 1. Give the written translation of the following sentences into your native language. Underline and define the forms of the Infinitive.

1. This distribution, provided in most statistical textbooks, allows us to estimate the odds against getting this elevation measurement given the tabulated standard deviation.
2. A useful description of a line could be the ratio of actual line length divided by the start-to-end node length.
3. The direction could be taken as the clockwise angle bearing from north.
4. The value would have a big variance along a curved or wiggly line.

5. Simplest to measure with a GIS are the area in square meters, the length around the boundary, the number of points in the boundary, the number of holes.

Task 2. Give the written translation of the following sentences into your native language. Underline the forms of Participle I and Participle II.

1. GISs typically can create several types of thematic mapping, including proportional symbol maps; and they can draw isoline and cross-sectional diagrams when the data are three dimensional.
2. The more numbers we have, the more we can see what the typical amount of variation is, that is, how corrupted are the readings by a random amount of error.
3. Patterns are regular, patchwork, repetitive, or swirling.
4. A centroid is any point chosen to represent a higher-dimension geographic feature, of which the mean centre is only one choice.
5. The power of the GIS is in handling the geometry of the overlay process. Handling and preparing the themes is up to the GIS analyst.

Task 3. **Put the verbs in brackets into the correct tense form and underline them. Mind the Sequence of Tenses.**

1. If we _____(to have) two readings only, and they disagree, we _____(to average) them.
2. We _____(to meet) the method already several times, and should recall that the maps to be overlain _____(must be) of the same spatial extent
3. One of the greatest strengths of a GIS _____(to be) that it can place real-world data into an organizational framework that _____(to allow) numerical and statistical description and permits logical extension into modeling.
4. The organization of the map into digits (to have)_____ a major impact on how we (to capture)_____,(to store)_____, and (to use)_____ the man data in a GIS.

Exercise 4. Read the text. Find the English equivalents to the following terms.

1. резкое изменение узловых точек _____
2. тождественные координаты _____
3. разлагать на составляющие _____
4. цельная, монолитная (база данных) _____
5. разрыв, отсутствие непрерывности _____
6. минимальное расхождение _____
7. допустимое отклонение _____

Other functions typical of an editor are *node snapping,* in which points that are close to each other and that should indeed be the same point, such as the endpoints of

a line segment, are automatically placed into the graphic database with the identical coordinates; *dissolve,* when duplicate boundaries or unnecessary lines (e.g., the digitized edges of adjacent category-type maps) are eliminated automatically or manually; and *mosaicing* or 'zipping,' in which adjacent map sheets scanned or digitized separately are merged into a seamless database without the unnecessary discontinuities caused by the lack of edge matching of the paper maps. For example, a major road that crosses two map sheets does not need to be represented as two separated features in the final GIS database.

Another important editing function is the ability to deal with map *generalization.* Many digitizing modules of GIS systems, and certainly scanning, generate far more; points than are necessary for the use of the GIS. This extra detail can complicate data reformatting and display, slow the analysis process, and lead to memory problems on the computer. Many GIS packages allow the user to select how much detail to retain in a feature. Most will retain points that have a minimum separation and snap together all points within a fuzzy tolerance.

For point data sets, most GIS packages will eliminate or average duplicate points with the same coordinates. Some will allow *line generalization,* using any one of many algorithms that reduce the number of points in a line.

Exercise 5. Complete the sentences with the following words:

design loop symbols fount credits colours
map design cartographic elements clarity figure

1. For this map we need some definite _____.
2. The _____ of that map helped me to find the way.
3. This process is called the _____, because first we design a map and then set of _____ and _____.
4. A _____ is the last stage in the mapping process.
5. The _____ are not cited on this map.
6. On a map of New York State, the state is the _____, and surrounding states, though shown and labeled, are part of the ground and may be toned down.
7. The neat line, legend, scale are the _____.

Exercise 6. Read and translate key terms and definitions.

Feature – a single entity that composes part of a landscape.
Scale – the geographic property of being reduced by a representative fraction.
Area – a two–dimensional feature represented by a line closed on itself to form a boundary.
Data – a set of measurements or other values, such as text for at least one attribute and at least one record.
Analysis – the stage in science when measurements are sorted, tested and examined visually for patterns and predictability.

Task 7. Read the text. Write down the text and give the written translation into your native language.

One of the oldest analytical methods used in GIS is map overlay. Map overlay is the

set of procedures by which maps with different themes are brought into geometric and scale alignment so that their information can be cross referenced and used to create more complex themes. We have met the method already several times, and should recall that the maps to be overlain must be of the same spatial extent, on the same map projection and datum, be at comparable granularity (that is, the spatial units, whether pixels or polygons, should be about the same average size), and if the layers are to be used with map algebra, at the same raster grid size and resolution.

The power of the GIS is in handling the geometry of the overlay process. Handling and preparing the themes is up to the GIS analyst. Under the simplest possible configuration, GIS layers are all converted to binary maps, and an overlay then sifts the map space to leave open the areas that satisfy the selection criteria in use. This is the case in the simple overlay analysis and duplicates in the GIS methods that were worked out using transparent overlay maps and blacked out areas on the transparencies. Many of these methods date back to the turn of the twentieth century.

Task 8. Translate the following sentences into English.

Застосування ГІС-технологій в якості ядра при побудові перерахованих систем зумовлює можливість їх (систем) створення на єдиній методологічній основі, незалежно від рівня використання (регіон, галузь, акціонерне товариство, гірничодобувне підприємство). Це дозволяє в значній мірі уніфікувати і систематизувати програмні та технічні засоби, що застосовуються в гірничодобувних галузях промисловості, і виробити єдину стратегію інформатизації і технічного переозброєння підприємств.

Крім цього ГІС-технології надають можливість інтегрувати в єдине інформаційне середовище алгоритми вирішення багатьох прикладних задач, що є надзвичайно важливим при створенні проблемно-орієнтованих автоматизованих систем гірничого виробництва на основі програмно-алгоритмічних засобів, розроблених у різних наукових колективах і, як правило, не доведених до кінцевого програмного продукту.

Варіант 4

Task 1. Give the written translation of the following sentences into your native language. Underline and define the forms of the Infinitive.

1. We know Ray Tomlinson to initiate using the @ sign to separate the names of the user and their computer in 1971.
2. A special code for the '@' character is known to have been introduced to the Morse code in 2004.
3. Information turned out to be shared in a new way.
4. We persuaded them not to write down the information.
5. Messages are allowed to be passed between different computers.

Task 2. Give the written translation of the following sentences into your native language. Underline the forms of Participle I and Participle II.

1. Almost all GIS packages now either allow interactive modification of map elements moving and resizing titles and legends.

2. Shade sequences should be even following from dark to light, with dark usually being high, and light being low.
3. While statistics are useful in demonstrating that an error is present, and that it has an impact on the aggregate statistical descriptors, the GIS can help us to isolate exactly which readings have caused the problem.
4. This is one way that we can determine whether the largest and smallest measured elevations are reasonable.
5. We do not have this option if we have only one number or reading - we have no choice but to use it!

Task 3. **Put the verbs in brackets into the correct tense form and underline them. Mind the Sequence of Tenses.**

1. If we _____(to have) three readings and they disagreed, we _____(can average) them, reject one reading that was obviously wrong.
2. The challenge _____(to be) to find numbers that _____(to say) the same thing.
3. Geographic inquiry _____(to examine) the relationships between geographic features collectively to help describe and understand the real-world phenomena that the map _____(to represent).
4. A sequence from light yellow to orange with a slight color change _____(to look) right, but a sequence from red to blue across the rainbow _____(to make) the map look like a decorated Easter egg!

Exercise 4. Read the text. Find the English equivalents to the following terms:

1. особые требования _____
2. частые переработки и корректировки _____
3. система гражданского назначения _____
4. система производственных записей _____
5. сравнения с (географическим) геообразцом _____
6. комплексный пакет программ _____
7. пользовательский интерфейс _____

By the late 1970s all of the necessary parts of a GIS existed as isolated software programs. The largest gap to be filled was between the relational database manager and the programs that dealt with plotting maps. The specific demands of hardware devices from particular manufacturers kept this as a constantly evolving field, with frequent rewrites and updates as systems and hardware changed. Later, the device independence attributable to common operating systems such as Unix and computer graphics programming standards such as GIS, Core, and PHIGS led to a narrowing of this chasm, to the point where today it remains as barely a discernible dip in the GIS ground. The scene was set for the arrival of the first true GISs.

One of the earliest civilian systems to evolve all the capabilities of a true GIS was the CGIS (Canadian Geographical Information System), mostly because this system was the first to evolve from an inventory system toward doing analyses and then management. Essential to the emergence were the georeferencing and geocoding

of the data, database management capability, a single integrated software package without separate, stand-alone elements, and a single user interface.

Exercise 5. Complete the sentences with the following words:

examination theme idea Internet immense revolution significant

1. There is still an_____ amount of work to be done.
2. All got the information from the_____.
3. It might be an _____ to try again later.
4. Careful _____ of the ruins revealed an even earlier temple.
5. The naked male figure was always the central _____ of Greek art.
6. A _____ in information technology is taken place.
7. Your work has shown a _____ improvement.

Exercise 6. Read and translate key terms and definitions.

Topographic map – a map type showing a limited set of features but including at the minimum information about elevations or landforms.

Flow map – a linear network map that shows, usually by proportionally varying the width of the lines in the network, the amount of traffic or flow within the network.

Dot map – a map type that uses a dot symbol to show the presence of a feature, relying on a visual scatter to show spatial pattern.

Network map – a map that shows as its theme primarily connections within a network, such as roads, subway lines, pipelines, or airport connections.

Reference map – a highly generalized map type designed to show general spatial properties of features.

Task 7. Read the text. Write down the text and give the written translation into your native language.

So far we have covered the various map types. The GIS user should think of these as a set of possible methods, to be used when the GIS data to be shown have a given set of characteristics. Earlier in the book we classified features on a map into those that are points, lines, areas, and volumes. Obviously, the nature of the map data in the GIS is different for each of these. A three-dimensional location, for example, usually needs latitude, longitude, and elevation. In addition, the type of attribute information determines what mapping methods can be used.

The types of maps make certain assumptions about the nature of the attributes themselves, not just their graphic representation. For example, a reference map that shows cities has point information and text attributes - the names of the cities. The proportional circle map requires that for every point the attribute must be an integer or a floating-point number. A choropleth map requires a floating-point number that has been grouped into shade categories.

Task 8. Translate the following sentences into English.

В основі всіх розроблюваних із застосуванням ГІС-технології систем лежить єдина інтегрована реляційна база даних (БД). Структура цієї бази даних

відповідає інформаційним потребам реалізуються в системі завдань. Для багатьох гірничо-геологічних додатків інформація, що зберігається в БД, може включати в себе не тільки текстові та числові дані (що традиційно для реляційних СУБД), але і первинні, найбільш відповідальні просторові дані - координати точок маркшейдерської зйомки.
Велика частина координатних даних систем зберігається у форматі покриттів системи ARC / INFO. Зв'язок даних в покриттях ARC / INFO і таблицях СУБД реалізується на основі використання унікальних ідентифікаторів об'єктів.

Варіант 5

Task 1. Give the written translation of the following sentences into your native language. Underline and define the forms of the Infinitive.

1. The text was certain to have been read by all users without problems.
2. He failed to contact the company as email hadn't been known.
3. It is not easy to get spammers stop sending unwanted messages.
4. We recommend you to post your address publicly when absolutely necessary.
5. One British psychologist claims to have identified a new mental disorder caused by too much information.

Task 2. Give the written translation of the following sentences into your native language. Underline the forms of Participle I and Participle II.

1. A very limited few GIS packages include cartographic design help in their editing of graphics, defaulting to suitable color schemes.
2. Of increasing interest in recent years has been the development of GIS functions that support data in standard exchange formats.
3. Geocoding must include at least the *input* of scanned or digitized maps in some appropriate format. The system should be able to absorb data in a variety of formats, not just in the native format of the particular GIS.
4. Some of the early computer mapping systems had already devised many GIS functions by this time, however.
5. Choropleth maps usually establish value by shading, pattern, or color intensity, but rarely by color as such.

Task 3. **Put the verbs in brackets into the correct tense form and underline them. Mind the Sequence of Tenses.**

1. If the area _____(to have) neighboring areas, we _____(to count) them or determine the average length of the area's boundary shared in common with a neighbor.
2. Cartographers _____(to study) the symbolization aspect of design in detail, and more than a few rules of thumb _____(to exist).
3. GIS software did not suddenly appear as if by magic. There _____(to be) a lengthy period leading up to the first real GISs during which the breed _____(to evolve) rather rapidly.

4. At first, GIS packages _____(to have) unsophisticated user interfaces, and many actually _____(to make) the user write short computer program-like scripts.

Exercise 4. Read the text. Find the English equivalents to the following terms.

1. положение, расположение рядом _____
2. интенсивность _____
3. одновременный контраст _____
4. насыщенность (цвета) _____
5. оттенок, тон _____
6. фон _____
7. десятичная величина _____

Color is a complex visual variable. Colors are often expressed as red, green, blue triplets (RGB) or sometimes as *hue, saturation,* and *intensity* (HSI). These values are either determined by the hardware device (e.g., 8-bit color allows a total of 256 colors from any of 256 • 256 • 256 combinations of individual values of RGB) or are decimal values of HSI between zero and one. For example, in RGB, a mid-gray would correspond to [128,128,128]. It is possible to translate directly between the RGB and HSI representations of color. Whereas RGB values are simply the degree to which the respective colored phosphors of the monitor emit light, HSI is closer to the way in which people perceive color.

Hue corresponds to the wavelength of light, going from red at the long-wave end of the visible light spectrum to blue at the other end. *Saturation* is the amount of color per unit display area, and *intensity* is the illumination effect or brightness of the color. Cartographic convention dictates that hue is assigned to categories and that saturation or intensity is assigned to numerical valve. When several hues appear in juxtaposition on a map, the colors are perceptually altered by the eye, a phenomenon known as *simultaneous contrast.* Thus maps that use several hues, even as background and line color, should be designed with caution. In addition, the eye's ability to resolve contrast varies significantly with hue, highest in red and green and lowest in yellow and blue.

Exercise 5. Complete the sentences with the following words:

uphill *identified* *health* *assist* *purpose* *vehicle* *linked*

1. The _____ of the book is to provide complete money.
2. Exhaust fumes are bad for your _____.
3. Are you the driver of this _____?
4. The last part of the race is all _____.
5. The video cameras are _____ to a powerful computer.
6. The bodies were _____ as those of two suspected drug, dealers.
7. We'll do all we can to _____ you.

Exercise 6. Read and translate key terms and definitions.

Cartographic elements **-** the primitive component part out of which a map is assembled, such as the neat line, legend, scale, titles, figure, and so on.

Clarity **-** the property of visual representation using the absolute minimum amount of symbolism necessary for the map user to understand map content without error.

Credit - a cartographic element in which the sources, authorship, and ownership of the map and the map attributes are cited, often including a date or reference.

Ground **-** the part of the body of the map that is not featured in the figure. This area can include neighboring areas, oceans, and so on. The ground should fall lower than the figure in the visual hierarchy.

Figure **-** the part of a map that is both referenced in the map coordinate system rather than the page layout coordinates and that is the centre of the map reader's attention. The figure is contrasted against the ground, or background.

Task 7. Read the text. Write down the text and give the written translation into your native language.

The design of a map is a complex process. Good design requires planning, achieving visual balance among map elements, following conventions, employing the design loop, and correctly using symbols and map types. Without consideration of design, and certainly without having all the required map elements, however impressive it may look on a computer screen, the product is just not as effective. If the map is the result of a complex GIS process, good design is even more important to the person who will have to interpret the map. As we have seen, the relationship between cartography and GIS is a close one.

While making a map is often given little thought in the GIS process, it is nevertheless an important stage because it is using maps that particularly distinguishes GIS as being a different scientific approach, and it is the map that has the primary visual impact on the GIS user or decision maker using GIS. Just a little extra care and attention to detail at this final stage can lead to immense improvements in the finished GIS product and to the perception that the entire information flow used in the GIS process is professional and complete.

Task 10. Translate the following sentences into English.

Основні базові функції роботи з даними (як просторовими, так і атрибутивними) виконувалися з використанням внутрішнього мови ArcView (Avenue). Прості програми розрахунків і побудов також створювалися на Avenue.

Мова Avenue дозволив організувати динамічна взаємодія систем із зовнішніми завданнями, використовуючи протокол DDE в середовищі Microsoft Windows і протокол RPC в середовищі UNIX. Крім того, використовувалися бібліотеки динамічного компонування (DLL) в середовищі Microsoft Windows. Зазначені механізми дозволили реалізувати в системах складні розрахункові програми, що вимагають високопродуктивної обробки числових даних. Ці програми розроблялися з використанням універсальних алгоритмічних мов програмування (наприклад, CI + +).

Зміст

Навчальне видання

МЕТОДИЧНІ ВКАЗІВКИ ДО ВИКОНАННЯ
КОНТРОЛЬНОЇ РОБОТИ
З ДИСЦИПЛІНИ
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