**Task 1. Read and learn the basic vocabulary terms.**

1. appropriate – доречно,

2. artificial intelligence – штучний інтелект

3. behaviour - поведінка

4. circumstance - обставина

5. continual - безперервний

6. decision tables – таблиці рішень

7. direct implementation - безпосереднє здійснення

8. experience - досвід

9. extent – міра

10. fault – несправність, помилка

11. feasibility - доцільність

12. flowchart – блок-схема

13. gradually - поступово

14. iteration – ітерація, повтор

15. loop – петля, цикл

16. maintain - підтримувати

17. markup language - мова розмітки

18. network system – мережева система

19. parallel implementation – паралельна реалізація

20. particular – зокрема

21. pilot implementation - пілотна реалізація

22. pseudocode – псевдокод

23. repeatedly - неодноразово

24. sequence (n,v) - послідовність (n, v)

25. staff - персонал

26. strengths and weaknesses - сильні і слабкі сторони

27. systems analyst - системний аналітик

28. testing and adapting - тестування та адаптація

29. therefore - отже

30. to allocate -виділити

31. to arise - виникати

32. to avoid errors - щоб уникнути помилок

33. to be responsible for - нести відповідальність за

34. to consider - вважати

35. to exist - існувати

36. to get rid of - позбутися

37. to investigate - розслідувати

38. to meet the requirements - відповідати вимогам

39. to modify - модифікувати

40. to occur - відбуватися

41. to operate properly - щоб працювати належним чином

42. to put into service - ввести в експлуатацію

**Task 2. Answer the following questions.**

1. What does the term “software engineering” imply?

Software engineering is the discipline of designing high quality software solutions.

2. What does software consist of?

Software consists of programs sets of instructions for controlling a computer and data the material that has to be processed.

3. What do systems analysts do?

A systems analyst is a person who designs or modifies information systems to meet users' requirements.

4. What are the stages of producing a program?

Stages of producing a program is: clarifying the problem, designing a solution, coding and debugging the program, documenting and maintaining the program.

5. Why do systems analysts need to talk to different specialists? What factors do they need to establish?

Systems analysts talk to the people involved in the computing problem, including the people managing the system and the users or potential users of the system. They need to establish factors such as: the nature of the problem, what systems already exist, to what extent any existing systems are computerised , what output be required from the system, who will be using the system and what parts of the system they need to be able to use, the computing experience of the staff and what training would be required, what hardware already exists and what would need to be added.

6. What is used to show the sequence of instructions in a program?

Documentation is using to show the sequence of instructions in a program.

7. What programme instructions are considered in the text?

Comments is the instractions that are considered in the text.

8. What is a pseudocode?

It is a natural languages that use the normal grammar of the spoken language to create programs.

9. Why are there a large number of computer languages available for use by programmers?

There are a large number of computer languages that are available for use by programmers because each language have own purpose and different business tasks.

10. Can you compare strengths and weaknesses of different programming languages?

Yes, I can.

Task 3. Put these five stages of programming in the correct sequence.

I.

d) Clarify the problem.

a) Design a solution.

b) Code the program.

e) Test the program.

c) Document and maintain the program.

I. d) a) b) e) c)

II. To which stage do each of these steps belong.

a) Clarify objectives and users.

d) Do a structured walk through.

e) Select the appropriate programming language.

b) Debug the program.

c) Write programmer documentation.

II. a) d) e) b) c)

Task 4. Find the English equivalents of the following word combinations in the text.

1. показати послідовність інструкцій - show the sequence of instructions;

2. постійна перевірка і налаштування - constant checking and adjustment;

3. знайти і виправити помилки - find and fix bugs;

4. загальна структура рішення - загальна структура рішення;

5. відповідати вимогам користувача - meet user requirements;

6. здійснимість і вартість - feasibility and cost;

7. встановити фактори - establish factors;

8. досвід співробітників - staff experience;

9. встановлювати послідовність інструкцій програми -set the sequence of program instructions;

10. поступово звикнути до нової системи - gradually get used to the new system;

11.працювати як слід - work properly;

12. мати певні сильні та слабкі сторони - have certain strengths and weaknesses;

13. найбільш прийнятний у кожній ситуації - most acceptable in each situation;

14. легкий у використанні - easy to use;

15. призначенний для вирішення певних проблем - designed to solve certain problems.

Task 5. Match the terms with their definitions.

a) artificial intelligence -. 7. Developing computer programs that perform tasks that can normally be done using human intelligence.,

b) program -2. A set of instructions written in a computer language that control the behaviour of a computer.,

c) markup language - system8. A set of tags that can be inserted into a document to indicate its layout and appearance.,

d) systems programs -4. A system where a number of computers and peripheral devices are connected together.,

e) pseudocode -5. A method of writing a description of a computer program using a mixture of natural languages and a computer language code.,

f) output -3. The processed data or signals that come out of a computer system.,

g) systems analyst -1. A person who designs or modifies information systems to meet users’ requirements.,

h) network system, - 6. Programs that are used to control the basic functions of a computer

Task 6. Mark the following as True or False.

1. Pilot implementation means that both systems run at the same time for a period.

False

2. Phased implementation is when parts of the system are converted separately.

True

3. Parallel implementation is when the new system is piloted in part of the company before extending it to the whole company.

False

4. Pascal is extremely difficult to use and is not suitable for learning how to program.

False

5. Fortran is designed for writing business programs.

False

6. Java and Perl have a number of specialized uses including adding features to internet connections and webpages.

True

Task 7. Translate the following sentences into Ukrainian.

1. Computer information systems may be designed to take care of just one operational area, but today’s more complex systems are more likely to be designed to integrate a variety of operational procedures.

1. Комп’ютерні інформаційні системи можуть бути розроблені для одної операційної сфери, але сьогодні більш складні системи, швидше за все, розробляються як сукупність різноманітних операційних процедур.

2. New methods are developed to deal with the complex process of designing and maintaining computer systems.

2. Розробляються нові методи боротьби зі складним процесом проектування та обслуговування комп’ютерних систем.

3. A website designer wants to enable the data or his website to be easily processed by a number of different programs.

3. Дизайнер веб-сайтів хоче забезпечити можливість легко обробляти дані або його веб-сайт за допомогою різних програм.

4. Each element of the system has a particular function and each unit must be designed to interact with the other elements of the system.

4. Кожен елемент системи має певну функцію, і кожен блок повинен бути спроектований для взаємодії з іншими елементами системи.

5. Although the complexity of the tasks to be performed and the number of the users to be served will help to determine the type of computer to be used, there may be a number of different hardware configurations that will meet the need.

5. Хоча складність завдань, що виконуються, і кількість користувачів, які будуть обслуговуватися, допомогають визначити тип комп'ютера, який буде використовуватися, може існувати безліч різних апаратних конфігурацій, які будуть відповідати потребам.

6. A computer information system must be seen as a system that is used to transform data into useful information.

6. Комп’ютерна інформаційна система повинна розглядатися як система, яка використовується для перетворення даних у корисну інформацію.

7. For the information system to be successful, it must be designed to provide information in a way that is usable and useful to all management personnel.

7. Щоб інформаційна система мала успіх, вона повинна бути розроблена таким чином, щоб надавати інформацію таким чином, щоб вона була корисною та зручною для усього управлінського персоналу.

8. Computer communication will undoubtedly be used to transmit data electronically between locations.

8. Комп’ютерний зв’язок, безсумнівно, використовуватися для електронної передачі даних між місцезнаходженнями.

9. To update or modify an existing system the same procedures can be used.

9. Для оновлення або модифікації існуючої системи можна використовувати ті самі процедури.

10. As the process of systems analyses and design has been formalised, a new kind of professionals, known as systems analysts has emerged. They possess special skills and knowledge required to deal with all aspects of systems development.

10. Оскільки процес системного аналізу та проектування формалізувався, з’явився новий тип професіоналів, відомий як системний аналітик. Вони володіють спеціальними навичками та знаннями, необхідними для вирішення всіх аспектів розробки систем.

11. The systems analysts’ task is to design and implement a system that facilitates the storage, processing, and accessing the data.

11. Завдання системних аналітиків полягає у розробці та впровадженні системи, що полегшує зберігання, обробку та доступ до даних.

Task 8. What do you know about programming? Answer the Internet Quiz.

1. Checking a computer program for errors is called b) debugging .

2. The computer itself uses c) machine language.

3. The term BASIC is an acronym for d) Beginner's All-purpose Symbolic Instruction Codу.

4. A programming language which looks like normal English is a(n) c) natural

language.

5. The process of writing the computer instructions is called a) coding .

6. The c) programmer must decide what a new program is to accomplish.

Task 9. Read the text on the page below and complete the table.

Type of error - Text B) Text C)

Definition – Text B) Text C)

Example – Text A) Text C)

Ways to avoid or deal with this kind of error – Text A) Text C)

A) System errors affect the computer or its peripherals. For example, you might have written a program which needs access to a printer. If there is no printer present when you run the program the computer will produce a system error message. Sometimes a system error makes the computer stop working altogether and you will have to restart the computer. A sensible way of avoiding system errors is to write a code to check that the peripheral is present before any data is sent to it. Then the computer would warn you by a simple message on the screen, like ‘printer is not ready or available’.

B) Syntax errors are mistakes in the programming language (like typing PRNIT instead of PRINT). Syntax errors cause the program to fail. Some translator programs won’t accept any line that has syntax errors. Some languages also contain special commands such as debug, which will report structural errors in a program. The programming manual for the particular language you’re using will give details of what each error message means.

C) Logic errors are much more difficult to detect than syntax errors. This is because a program containing logic errors will run, but it won’t work properly. For example, you might write a program to clear the screen and then print ‘hello’. Here is a code for this:

10 Message

20 PRINT ‘Hello’

30 CLS

40 END

The code has a logic error in it, but the syntax is right so it will run. You can get rid of logic errors from simple programs by ‘hand-testing’ them or doing a ‘dry run’ which means working through each line of the program on paper to make sure it does what you want it to do. You should do this long before you type in the code.

**Task 12. There are answers to questions about the text. Write the questions.**

1. There are five main steps in the computer program development.

How much steps are in the computer program development?

2. For writing the computer program.

For each main purpose the Integrated Development Environment is designed for?

3. It is developed in program planning.

In which process logic to solving the problem implement?

4. As formulas, decision tables, or narratives.

In which way algorithms can be stated?

5. Yes, it is the actual writing of computer instructions.

Is a coding actual writing of instructions?

6. No, programmers usually are not given a choice of languages.

It is true that programmers often choices any languages they want?

7. It is called compilation.

What is assembling and connection all part of the program?

8. When the results of testing are not correct.

When we need to debug the program?

9. To obtain correct results.

Foe which purpose we need debugging program?

10. They must be written before the program documentation is complete.

Before which process solution logic needed to be written?

Task 13. Choose the correct word to complete each sentence. You may have to change some words slightly.

*compilation, compiler, compile, compiled*

1. It took weeks to compile the new customer database.

2. A source program cannot be directly processed by the computer until it has been compiled.

3. If the errors are removed and the program re-run, the process of compilation starts all over again, but this time the compiled program will be executed. 4. A computer needs its own compiler for the various high-level languages if it is expected to accept programs written in those languages.

*program, programmer, programming, programmable*

1. The programmable CD-player allows the user to change the order in which tracks are played in. 2. She programming the VCR to come on at eight. 3. Most computer programmers make a plan of the program before they write it. This plan is called a flowchart. 4. It is unusual for a program to work correctly the first time it is tested.

*bug, debug, debugger ,debugging*

1. The best compilers usually include an integrated debugger which detects syntax errors. 2. New programs need to be debugged to make them work properly. 3. Once you have written your program you have to test it with sample data to see if there are any bugs or errors.

*instruction, instruct,* *instructed, instructor*

1. The next step is to design an algorithm, which is a step-by-step plan of instruction used to solve the problem. 2. We have been instructing that a decision has to be made before the end of the week. 3. Our maths instructor explained the principles of binary arithmetic.