Dear Students!!

In this e-book of 11th class, study material of computer science is being sent to you as per new syllabus (2021-22). You can easily prepare your test / papers by reading the contents in this file. Following are the links of the video lectures (for HTML and C Language) for various practical topics of your syllabus for better understanding of various concepts.

11th Class - Monthly distribution of Computer Science Syllabus & Video Lecture Links (Pbi)

How to do HTML Practical on Mobile?	https://youtu.be/PYFuKCwdlOY
HTML Part-1	https://youtu.be/DcYz0QX9CVs
HTML Part-2	https://youtu.be/qLlzLKrbhIA
Programs, Programming & Programming Languages	https://youtu.be/CKwC8oeOw_o
Introduction to C Language: Part-1	https://youtu.be/G9ZaHvTd5sU
Introduction to C Language: Part-2	https://youtu.be/8NXsnDCr1ho
Introduction to C Language: Part-3	https://youtu.be/aU06gTkp82k
Operators and Expressions in C	https://youtu.be/PGv1_8Q5fh8
Control Statements in C - Branching	https://youtu.be/xi-38dRt3mY
Control Statements in C – Looping & Jumping	https://youtu.be/NIkDGAr-AjE

C Language – Practical Video Lectures

C Language Practical -1	https://youtu.be/8hg3BJAyBqE
C Language Practical -2	https://youtu.be/v_lw8wmfIP4
C Language Practical -3	https://youtu.be/RBq--darc0I

Following is the Link of Playlist for detailed Lectures on C Programming

https://youtube.com/playlist?list=PLja3EaJFAjmYjeAcDs0ZQdVmx7liCtg5P

PLEASE DO NOT FORGET TO LIKE, SHARE AND SUBSCRIBE OUR YOUTUBE CHANNEL

▶ YouTube   http://youtube.com/c/computersciencepunjab

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Please use the following link to download the study material/e-books/e-contents for 6th to 12th classes:

http://cspunjab.nirmancampus.co.in/study.php

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Chapter – 6th
Concept of Programming and Programming Languages

Que: 1 Multiple Choice Questions
1. Set of instructions is called _____.
a. Group   b. Software   **c. Program**   d. None of these
2. Which language is directly understood by computer without any translation?
a. Procedure Oriented Language   **b. Machine Language**
c. Assembly Language   d. High Level Language
3. Mnemonic codes & symbolic addresses are used in which programming language?
a. Object Oriented Language   b. Non-Procedural Language
c. Assembly Language   d. Machine Language
4. Which translator does not save object code after translation of source program written in high level language?
a. Translator   b. Compiler   c. Assembler   **d. Interpreter**
5. Process of finding and correcting errors in a program is called _____
a. Compilation   b. Coding   **c. Debugging**   d. Documentation

Que: 2 Fill in the Blanks:
1. A person who writes the program is called _____
2. Low level internal details of hardware are required for programming in _____
3. _____ is the pictorial representation of algorithm
4. Process of translating source program written in high level language into object code is called __
5. Those errors which are not detected by the compilers are called _____ errors.
Ans: **1.** Programmer   **2.** Low Level   **3.** Flow Chart   **4.** Compilation   **5.** Logical Errors

Que: 3 Write the Full form of following:
1. Opcode	**Operation Code**
2. Operand	**Operation Address**
3. 4GL	**4th Generation Language**
4. SQL	**Structured Query Language**
5. OOP	**Object Oriented Programming**

Que: 4 Short Answer Type Questions.
Q1: What is Programming?
Ans: Programs are a set of instructions that a computer can understand to perform a task. The process of writing these instructions into a program is called programming. The person who writes the program is called the programmer.
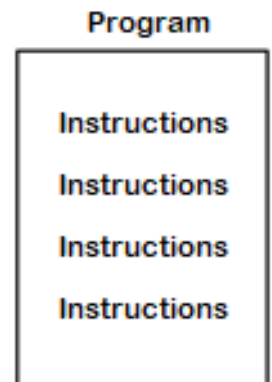
Q2: What are Procedure Oriented Programming Languages?
Ans: Procedure Oriented Languages are considered as third generation programming languages (3GLs). To create programs in these languages, it is divided into small procedures or subroutines. Each procedure contains a series of instructions for carrying out a specific task. After creating the procedure, we can use them one or more times anywhere in the program. The sequence of program instructions in these languages is very important. FORTRAN, COBOL, Pascal, C, etc. are examples of some popular procedural languages.

Q3: Write the names of different symbols used in flowcharts.
Ans: Following are the different symbols used in the flow chart:
- **Terminal (Oval symbol)**
- **Input / Output (parallelogram)**
- **Processing (rectangle)**
- **Diamond (rhombus)**
- **Flow lines (arrows)**
- **Connectors (circles)**

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Q4: Write the steps used in Programming Process.

Ans: The steps used in the programming process are as follows:

1. Define the problem to be solved
2. Develop a plan for solving problem
3. Coding the solution in high level language
4. Compile the program
5. Test and debug the program
6. Documenting the program

Q5: What are Syntax Errors?

Ans: These are the errors that occur when we develop programs that do not follow the rules or syntax of programming language. These types of errors are automatically detected by compilers during the compilation process. A program cannot be successfully compiled until all syntax errors in the program have been corrected. Some examples of syntax errors in C language are: Missing Semicolon, Variable not declared, etc.

Que: 5 Long Answer Type Questions.

Q1: What are low level programming languages? Explain their advantages and disadvantages.

Ans: Machine and assembly languages are called low-level languages. These are explained below:

- **Machine language**: Machine language is also called binary language. It is the fundamental language of computer systems because it is understood directly by the computer system. The computer does not require any translation to understand this language. This language is made up of only two binary digits 0 and 1.
- **Assembly Language**: This language is also called Symbolic Language because it uses the symbolic names of the instructions instead of the binary code. The symbolic names of the assembly language instructions can be easily remembered.

Advantages of Low-Level Languages:

- These languages can communicate / interact directly with computer hardware
- These languages work faster than computers.

Disadvantages of Machine Language:

- For programming in low level languages, the programmer needs to know the internal structure of the hardware.
- Programs created in low level languages are machine dependent.

Q2: What are Language Translators? Explain any one translator in detail.

Ans: Language translators are also called language processors. These are system-programs. The purpose of developing language translators is to accomplish two main tasks: first, to translate source programs into Object Code, and second, to detect syntax errors in the source program. Each language has its own translator program that can only translate programs written in that particular language. Examples of language translators are: assemblers, compilers and interpreter.

Assembler: This is a language translator that converts programs written in assembly language into machine language. A program written in assembly language is called a source program. This source program cannot be directly understood by the computer. Therefore, it is necessary to translate it into a machine-understandable format. It is the assembler that converts the source program of the assembly language into a machine-understandable program. The code generated after translation is called the object program, which is used to execute the program.
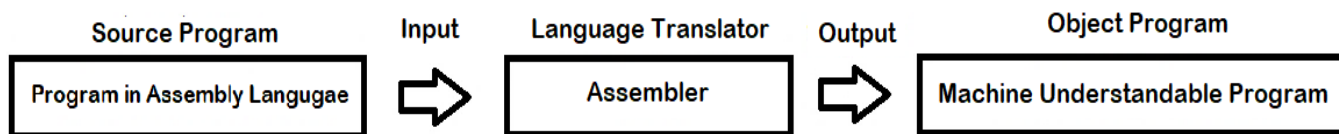
Fig: Working of Assembler

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Q3: What is algorithm? Explain the different features that an algorithm should have.

Ans: Creating algorithms is a basic requirement in computer programming. This is a step-by-step description of how to solve a given problem. An algorithm has limited steps and it should always produce some (right or wrong) result. Before creating a program, a programmer first sets the algorithm. An algorithm should have the following features:

- Every step must be accurate.
- Every step should be clear, which means it should not be ambiguous.
- Input and output should be carefully determined.
- Steps should not be repeated indefinitely.
- After implementing the steps, the required output should be obtained in any case.

Q4: Explain different types of errors found in the computer programs.

Ans: There are two common types of errors in programs:

- **Syntax Errors:** These are the errors that occur when we develop programs that do not follow the rules or syntax of programming language. These types of errors are automatically detected by compilers during the compilation process. A program cannot be successfully compiled until all syntax errors in the program have been corrected. Some examples of syntax errors in C language are: Missing Semicolon, Variable not declared, etc.

- **Logical Errors:** These errors occur when there are the errors in the logic of the program. If there are logical errors in our program, it will be successfully compiled but it will produce incorrect results / output. Such errors cannot be detected by the compiler. These can be easily found with the help of debugging tools.

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