Worksheet -3   Subject: - Computers   Class: - VI   Teacher: - Mrs. Suudha Sharma

Name: _____   Class & Sec: _____   Roll No. _____   Date: 25.04.2020
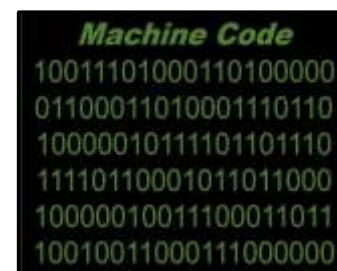
Lesson 2: Language and Software Story

The Computer Language

A language is medium to communicate with each other. We use components (symbols, words…) of a language according to certain rules defined by the language. This is called **syntax** of a language. Each language has its own syntax. Similarly, while writing a computer program it is important to follow this syntax, otherwise the computer will not be able to understand our instructions. Computer languages can be classified in the following three categories based on complexity of the language:

1. Machine Language
2. Assembly Language
3. High Level Language

1. Machine Language: Thee machine language is the elementary language of a computer which consists of only two digits called the Binary digits (0 and 1). The Machine language is directly accepted and executed by the computer.

Machine Code
10011101000110100000
01100011010001110110
10000010111101101110
11110110001011011000
10000010011100011011
10010011000111000000

```
code.asm
01  ORG 00H
02
03          MOV A, #32H
04
05          MOV R2,#00H
06          CLR C
07
08  AGAIN:  JC END1
09          MOV R0, A
10          SUBB A, #0AH
11          INC R2
12          SJMP AGAIN
13
14  END1:   DEC R2
15          MOV A, R2
16          CLR C
17          MOV R2, #00H
```

2. Assembly Language: In this language, binary operation codes are replaced by the Mnemonics. For example:

If in Machine language, the operation code to add is "0010"than, In Assembly language its equivalent is 'ADD'

Mnemonics are abbreviations or symbols, which are needed to be translated into machine language to get executed. This is done by the **assembler.**

Remember: Machine and Assembly languages are also called low level languages as they are linked with the hardware.

3. High Level Language: High Level Languages (HLL) are programming languages designed for users to write instructions in English like statements (for e.g.: c = a + b) rather than in the Machine Language or using Mnemonics. FORTRAN, C and Java are few examples of HLL. We need language translators (compilers or interpreters) to change HLL code to machine code so that it could be understood and executed by the computer.

Remember: HLL are considered to be third generation language.
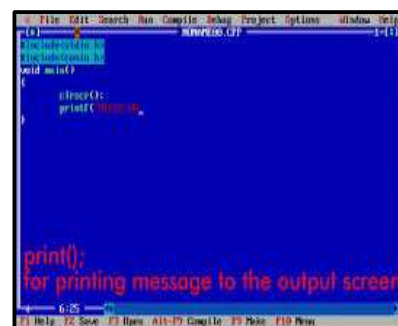
Machine Language	0010
Assembly Language	ADD
High Level Language	C = a + b

Now, answer the following questions:

Q.1. Write (T) for True and (F) for False against the statements:
1. The Machine Language is the elementary language of the computer.

2. 1 and 2 are also called binary digits.

3. Learning HLL is more difficult than learning the Machine Language.

4. A Compiler changes the HLL into Machine Level Language.

Q.2. Fill in the blanks:
1. The Machine Level Language consists of _____ and _____.

2. In _____languages, you can write instructions in English like statements.

3. A Compiler or an Interpreter converts HLL into _____.

4. _____is the component of language according to certain rules defined by the language.

Q.3. Answer in one word/sentence.
1. Classify computer languages.

2. Which computer language is the most simplest?

3. Which language is directly accepted and executed by the computer?

4. What are mnemonics?

Q.4. Solve the crossword using the hints given:
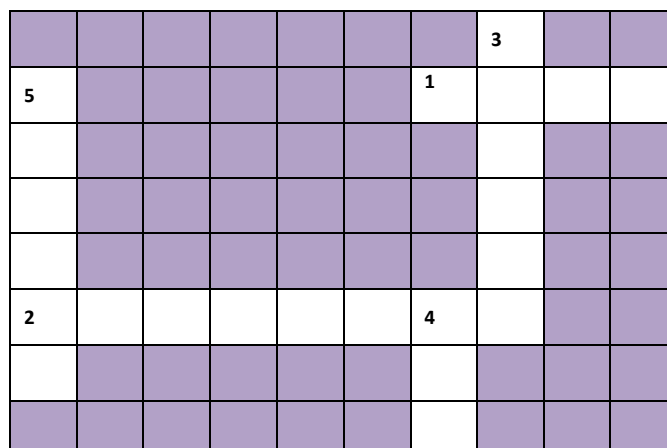
Across

1. Java and FORTRAN are _____ level languages.

2. This language uses mnemonics.

Down

3. 0 and 1 are _____ numbers.

4. Machine and Assembly languages are also called _____ level languages.

5. Each language has its own _____.

Answers:

Q.1. Write (T) for True and (F) for False against the statements

1. T
2. F
3. F
4. T

Q.2. Fill in the blanks:

1. 0 and 1
2. HIGH LEVEL
3. Machine level
4. Syntax

Q.3. Answer in one word/sentence.

1. Computer languages can be classified in the following three categories based on complexity of the language:

    1.   Machine Language   2. Assembly Language   3. High Level Language

2. High Level Language is the simplest language.

3. Machine Language is directly accepted and executed by the computer.

4. Mnemonics are abbreviations or symbols, which are needed to be translated into machine language to get executed. This is done by the **assembler.**

Q.4. Solve the crossword using the hints given:

							B		
S						H	I	G	H
Y							N		
N							A		
T							R		
A	S	S	E	M	B	L	Y		
X						O			
						W			