

## CCA-101: Fundamentals of IT & Programing

### Assignment-2

**Q1:What is the difference between Machine Language and high level Language?**

**Ans.** The **difference** is **machine language** executed directly by CPU whereas **machine language** is first converted to binary by the compiler and then executed by CPU. In this era, **high-level language** is widely used by programmers, because **of** their ease **of code** and that's easy to understand.

**Q2:Discuss about different data types of c programing Language.**

**Ans.** .56 seconds)

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Data Types in C

| Data Type     | Memory (bytes) | Format Specifier |
|---------------|----------------|------------------|
| signed char   | 1              | %c               |
| unsigned char | 1              | %c               |
| float         | 4              | %f               |
| double        | 8              | %lf              |

**Q3:Find the output of the following expressions**

**(a)** $x=20/5*2+30-5$

**(b)** $y=30-(40/10+6)+10$

**(c)** $z=40*2/10-2+10$

**Ans.a)** How to solve your question

Your question is

$$x=20\div 5\cdot 2+30-5$$

$$x=\frac{20}{5}\cdot 2+30-5x=2\cdot 2+30-5$$

Solve

**Divide the numbers**

$$x = 205 \cdot 2 + 30 - 5$$

$$x = \{\textcolor{#c92786}{\frac{20}{5}}\} \cdot 2 + 30 - 5 = \textcolor{#c92786}{520} \cdot 2 + 30 - 5$$

$$x = 4 \cdot 2 + 30 - 5$$

$$x = \{\textcolor{#c92786}{4}\} \cdot 2 + 30 - 5 = \textcolor{#c92786}{4} \cdot 2 + 30 - 5$$

2

**Multiply the numbers**

3

**Add the numbers**

**Solution**

$$x = 33$$

**(b) solve**

$$= 30 - (4 + 6) + 10$$

$$= 30 - 10 + 10$$

$$= 30$$

**Q4: Describe the syntax of the following statement**

**(a) If-else statement (b) for loop (c) while loop**

**Ans. (a)**

If-then statements

## Featured snippet from the web

The **if/else statement** executes a block of code **if** a specified **condition** is true. **If** the **condition** is false, another block of code can be executed. The **if/else statement** is a part of JavaScript's "Conditional" **Statements**, which are used to perform different actions based on different conditions

(b) The for-loop follows four steps:

1. Init. The init code runs once to set things up at the very start of the **loop**. ...
2. Test. The boolean test is evaluated. ...
3. **Loop**-body. If the test was true, the body runs once. ...
4. Increment. Finally, the increment code executes just after the body, and then the program **loops** back to the test, (step 2).

## (c) The While Loop

The **while** loop loops through a block of code as long as a specified condition is true.

### Syntax

```
while (condition) {  
    // code block to be executed  
}
```

### Example

In the following example, the code in the loop will run, over and over again, as long as a variable (i) is less than 10:

### Example

```
while (i < 10) {  
    text += "The number is " + i;  
    i++;  
}
```

[Try it Yourself »](#)

If you forget to increase the variable used in the condition, the loop will never end. This will crash your browser.

## The Do/While Loop

The `do/while` loop is a variant of the while loop. This loop will execute the code block once, before checking if the condition is true, then it will repeat the loop as long as the condition is true.

### Syntax

```
do {  
    // code block to be executed  
}  
while (condition);
```

### Example

The example below uses a `do/while` loop. The loop will always be executed at least once, even if the condition is false, because the code block is executed before the condition is tested:

### Example

```
do {  
    text += "The number is " + i;  
    i++;  
}  
while (i < 10);
```

**Q5:Find the output of the following program segments**

|     |    |    |
|-----|----|----|
| (a) | b) | c) |
|-----|----|----|

|                                                                                                               |                                                                                                                     |                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>#include &lt;stdio.h&gt; Int main() { Int l; For(i=1;i&lt;2;i++) { Printf("IMS Ghaziyabad\n"); } }</pre> | <pre>#include &lt;stdio .h&gt; Int main () { Int i=1; While(i&lt;=2) { Printf("IMS Ghaziyabad\n"); i=i+1; } }</pre> | <pre>#include &lt;stdio .h&gt; Void main () { Int a =10,b=100 If(a&gt;b) Printf("Largest number is %d\n",a);else Printf("Largest number is %d\n",b); }</pre> |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|