

## Assignment - 3.

Q-1 What are the conditional operators in Java?

There are following conditional operators-

(a) If - else -

if ( condition ) {

    // Statement

    else {

        // Statement

}

(b) If - else ladder -

if ( condition ) {

    if ( condition ) {

        // Statement

}

    else {

        // Statement

}

else {

    // Statement

}

- ① Nested If-else -

if ( condition ) {

    // Statement

}

else {

    if ( condition ) {

        // Statement

}

}.

- Q-2 What are the types of operators  
Based on the number of operands?

- ① Based on a single operand ( unary operator) -

- ② Increment / Decrement operator -

$$x++ \Rightarrow x = x+1 \quad \} \text{ postfix}$$

$$x-- \Rightarrow x = x-1 \quad \}$$

$$\begin{aligned} ++x &\Rightarrow x = x+1 \quad \} \text{ prefix} \\ --x &\Rightarrow x = x-1 \end{aligned}$$

① Assignment operator -

$$x += 10 \rightarrow x = x + 10$$

$$x -= 5 \rightarrow x = x - 5$$

$$x *= 2 \rightarrow x = x * 2$$

$$x /= 3 \rightarrow x = x / 3$$

$$x \% = 5 \rightarrow x = x \% 5$$

ii) Binary operator - { Based on two oper }

② arithmetic operator -

+, -, \*, /, %

③ logical operator -

||, &&, !

④ Comparison operator -

>, <, >=, <=, ==, !=

⑤ Ternary operator -

(Condition) ? a : b ;

or

(Condition) ? exp1 : exp2 ;

Q-3: what is switch case in Java programming -

- In Java 'switch' case statement is a control flow statement that allow to select one of many code blocks to be executed Based on the value of an expression.
- Syntax-

```
Switch( expression ) {
```

```
Case 1, Valuee 1:
```

```
    // Code 1
```

```
    break;
```

```
Case 2, Valuee 2:
```

```
    // Code 2
```

```
    break;
```

```
}
```

Q-4: what are the priority levels of arithmetic operation in Java?

In Java, Arithmetic operations follow a set of priority levels, known as operator precedence.

## ① Additive operator-

'+'  $\Rightarrow$  Addition

'-'  $\Rightarrow$  Subtraction

## ② Shift operator-

'<<'  $\Rightarrow$  left op shift

'>>'  $\Rightarrow$  right shift

'>>>'  $\Rightarrow$  unsigned right shift

## ③ Relational Operator-

'< '  $\Rightarrow$  less than

'> '  $\Rightarrow$  greater than

'<='  $\Rightarrow$  less than equal to

'>='  $\Rightarrow$  greater than equal to.

## ④ Equality operator-

"=="  $\Rightarrow$  equal to

"!=="  $\Rightarrow$  not equal to.

⑤ Bitwise AND operator ('&').

⑥ Bitwise exclusive OR (XOR) operator ('^')

⑦ Bitwise OR operator (OR) ('|')

⑧ logical AND operator ('&&')

⑨ logical OR operator ('||')

(18)

Ternary operator ( '? : ' )

(19)

Assignment operators -

 $=', '+=', '-=', '*=', '/=', \%=';$ 

Q-5

Conditional Statement and use in Java ?

Conditional Statement - condition statement in Java are those statement which some condition and if the condition is true then there would be some code written inside the body of the statement would be executed else it would not execute.

In Java there is two ~~one~~ conditional Statement → ~~if~~

@

If - else -

```
if ( condition ) {
```

```
    // Statement
```

```
    }
```

```
else {
```

```
    // Statement
```

```
}
```

(b)

~~write -~~~~write ( condition ) {~~~~Switch or Statement -~~~~Switch ( expression ) {~~~~Case Value 1:~~~~// Code 1~~~~break;~~~~Case Value 2:~~~~// Code 2~~~~break;~~~~T.~~

Q-6.

Syntax of if-else Statement?

~~if ( Condition ) {~~~~// Code 1~~~~}~~~~else : {~~~~// Code 2~~~~T~~

Q- What is the difference between for loop and while loop?

①

for loop -

for (initialization; condition; update)

|| code

{ } block

②

while loop -

initialization;

while (condition) {

|| code

update statement;

{ } block

③

do while -

initialization:

do {

|| code  
update;

} while (condition);

## Q-6. Differences between for loop and do-while loop?

Differences for loop      |      do-while loop.

Syntax

~~for loop:~~  
for (init; condition; upd)  
{  
    // code  
}  
    ~~do {~~

initialization  
do {  
    // code  
    update;  
} while (condition);

Iteration: It is used when  
no. of Iteration  
is already known.

If it is used when  
no. of Iterations is  
not known.

Execution: It can execute  
zero time if  
the condition does  
not meet true.

It can execute  
at least one  
time.

Condition: Condition is checked  
at the starting of  
the loop.

Condition is checked  
at the ending of  
the loop.

Q - 8.

Differences between for loop and do-while loop

Difference for loop :

do-while loop:

② Syntax

```
for(initialization;
    for(init; condition; upd)
    {
        // code
    }
)
```

```
initialization
do {
    // code
    update;
} while(condition);
```

Mechanism: It is used when no. of iteration is already known.

It is used when no. of iterations is not known.

Execution: It can execute zero time if the condition does not meet true

It can execute at least one time.

Condition: Condition is checked at the starting of the loop

Condition is checked at the entry of the loop.

Q-9.

Program in Java to print numbers from 1 to 100.

Class number-print }

```
public static void main(String[] args) {
```

```
    for (int i = 1; i <= 100; i++) {
```

```
        System.out.println(i);
```

```
}
```

```
}
```