COMPUTER SCIENCE CLASS X

CHAPTER 1(Unit VII to IX) Revision of Class IX Syllabus

Compound Statement:

A compound statement is any number and kind of statements grouped together within curly braces.

```
                int x = 9,p = 0;double t=0.0D;
                if ( x % 2 !=0)
                   {                    // Body of if block is compound
                      p=x*x;            // It consists of two statements
                      t=Math.sqrt(x); // within curly braces
                   }
```

System.exit(0):

The java.lang.System.exit() method terminates the current running Java Virtual Machine.

This method takes status code as an argument. This method does not return any value.

System.exit(0) generally used to indicate successful termination.

System.exit(1) or exit(-1) or any other non zero value generally indicates unsuccessful termination.

Difference Between Switch statement and if-else statement:

Switch	If-else
1. Switch statement test only for equality	1.If-else statement test for equality as well as for logical expression
2.Switch statement evaluates only character or integer value.	2. If statement evaluates integer, character, floating point type or Boolean type
3. Switch statement applies break to terminates a case	3. It does not apply break statement
4. This statement is multiple branching statements.	4. It is bidirectional flow of control.

Fall Through:

If break statement is not used after a case then the control enters into another case for execution. This condition is known as fall through.

```
switch(n)
{
        case 1:
                …………
                ………….
        case 2:
                …………
                …………
}
```

Default case in switch:

A switch statement can have an optional default case, which must appear at the end of the switch. The default case can be used for performing a task when none of the cases is true. No break is needed in the default case. The control exits automatically from switch case block after executing default case.

```
switch(n)
{
        case 1:
                …………
                …………
                break;
        case 2:
                ………..
                …………..
                break;
        default:
                ………..
                ………..
}
```

When the value of n is given 10 or 7 the control automatically goes to default case for execution. It happens because case 10 and case 7 are not available in the switch block.

For Loop:
Syntax:

```
for( initial value; test condition; update)
{
        …………
        Task
        …………
}
```

While loop:

- An example of a while statement:

```
int count = 1;
while ( count <= 5) {
        System.out.println (count);
        Count++;
}
```

- If the condition of a while loop is false initially, the statement is never executed.
- Therefor, the body of a while loop will execute zero or more times.

Do-while loop:
- A do-while loop has the following syntax:

```
do {
        statement;
} while ( condition );
```

- The statement is executed once initially, and then the condition is evaluated.
- The condition is executed repeatedly until the condition becomes false.

Break statement in java:
Break statement is a loop control statement which is used to terminate the loop. As soon as the break statement is encountered from within a loop, the loop iterations stops there and control returns from the loop immediately to

the first statement after the loop.
Basically break statements are used in the situations when we are not sure about the actual number of iterations for the loop or we want to terminate the loop based on some condition.
In Java, break is majorly used for:
- Terminate a sequence in a switch statement (discussed above).
- To exit a loop.

e.g.

```
for ( int i =0; i<10; i++) {
    if (i == 5)
        break;
    System.out.print(i);
}
```

Output: 01234

Continue Statement:

Java continue statement is used to skip the current iteration of a loop and goes back to the next iterarion. Continue statement in java can be used with for, while and do-while loop.

e.g.

```
for ( int i =0; i<10; i++) {
    if (i == 5)
        continue;
    System.out.print(i);
}
```

Output: 012346789

Infinite loop:

A loop that never ends its iteration is said to be an infinite loop or endless loop.

e.g

```
while ( true )              or          for ( ; ;)
{                                        {
    Statement(s)                             Statement(s)
}                                        }
```

Null loop or empty loop:

A null loop is typically a loop which has no code in the loop. It is also known as body-less loop or delay loop.

e.g.

```
for ( int i=0;i<10;i++)        or        for(int i=0;i<10;i++);
            { }
```

Answer the following questions in your copy….

1. Name two jump statements and their use.

2. Explain 'Fall through' with reference to a switch case statement.

3. Is it necessary to use break statement in a switch case statement? Explain.

4. Explain with the help of a example, the purpose of default in a switch case statement? Explain.

5. What is the difference between a break statement and a continue statement. Explain with an example.

6. Write down the general format of:

   a) for loop   b) while loop   c) do-while loop

7. Distinguish between :

   a) For and while loop

   b) While and do-while loop

8. State one similarity between while loop and for loop

9. Predict the output and number of time loop runs:

   a)   int i;   b)   int i=1;

         for (i=0;i<5;i++)   while (i++<=1) {

```java
        System.out.println(i-i*i);        i++;System.out.print(i+" "); }
                                          System.out.print(i);
```

10.   Give the output of the snippet:

```java
int p = 9;
while(p<=15)
{
    p++;
    if(p==10)
    continue;
    System.out.println(p); }
```

11.   Study the method and answer the given questions

```java
Public void sampleMethod() {
    for ( int i=0;i<3;i++) {
        for (int j=0;j<2;j++) {
            int num = (int) (Math.random() * 10);
            System.out.println(num);
```

i) How many times does the loop execute?

ii) What is the range of possible values stored in the variable num.

12.   Analyse the following program segment and determine how many times the loop will be executed and what will be the output of the program segment.

```java
int k =1,i=2;
```

```
while(++i<6)

k *=i;

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

13.   Write the output of the following program code:

```
char ch;

int x =97;

do {

ch=(char)x;

System.out.print(ch+"");

if(x%10==0)

break;

++x; } while (x<=100);
```

14.

*****End*****

*** *Children are requested to go through the notes thoroughly and write down the notes and the questions and their answers in your respective copies. All the subject copies will be checked as soon as the school reopens****

Book: Understanding Computer Applications with BlueJ ICSE Class X

Chapter 1: Unit VII to Unit IX

Teacher: Mr.Sabyasachi Mukherjee   **Date**: 22/05/2020