# ASSIGNMENT QUESTIONS FOR JAVA PART 1

## JAVA PART 1

***DAY 1***

1)What is Java?
2)What are the features of Java?
3)Difference between Platform dependent and Platform independent.

***Day2***

1) What is JVM,JRE, JDK?
2) Difference between JVM, JRE, JDK?
3) What is a garbage collector?
4) What is the significance of JVM in Java Programming?
5) A java program uses a compiler as well as an Interpreter. Explain.
6) How JVM platform Dependent?

***Day3***

1)What is Command Line Prompt?
2)What is the User home directory?
3)What do you mean by Working directory?
4)Difference between absolute path and relative path.

***Day4***

***Theory***

1)What are the different members of a class?
2)Difference between print and println().
3)What happens if we don't provide data in print() and println() statements.
4)Can we execute the java class without the main method?

***Practical***

1) Write a java program to print “GOOD MORNING”;
2) Write a java program to print your BioData
    - Name
    - Date of Birth
    - Contact No.
    - Email id

3) Write a java program without a main method.
4) Write a java program to print 2 lines i.e Name and Company name using println method.
5) Write a java program to print 2 lines i.e Name and Company name using print method.

## ***Day5***

***Theory***

1.What is Token?What are the different types of Token?
2. What are the rules of an identifier?
3. What are Primitive and Non primitive literals?

***Practical***

1.Write a java program using the keyword 'void'.
2. Write java programs :

- With a class name starting with any number
- With a class name using '_' sign
- With a class name using space.
- With a class name using SingleWord
- With a class name using Multi Word

## ***Day6***

***Theory***

1.What do you mean by Variables?
2. Explain the types of variables.
3. Is the local variable declared with default values?
4. What are primitive variables in java? how to declare it?
5. Can we use local variables without initialization?
6. What do you mean by data types?
7. What are the different data types?
8. What are the default values for data types?

***Practical***

1. Write a java program to assign the following literals to the variables declared under various types.
    - "Java Programming"
    - 345
    - 'G'
    - 88.09
    - false
    - 10.8790
2. Write a java program to assign the value of pie(3.142) to a variable with the required data type and then print it.

***Day7***

***Theory***

1. What is data type casting? Explain its types .
2. What is the widening operation?
3. What is a narrowing operation?

***Practical***

1.Trace the program;

```
 class Program1
{
        public static void main(String[] args)
        {
                int a=112;
                char c=(char)a;
                System.out.println(c);

        }
}
```

2. Trace the program

```
class Program
{
        public static void main(String[] args)
        {
                char ch1='b';
                char ch2='c';
                char ch3=(char)(ch1+ch2);
                System.out.println(ch3);
    }
}
```

3. Trace the program

```
class Program7
{
        public static void main(String[] args)
        {
                int a=260;
                byte b=(byte) a;
                System.out.println(b);
            }
```

```
}
```

## ***Day8***

### ***Theory***

1. What is an operator in  Java?
2. What are the types of operators based on the numbers of operands?
3. What is Unary operator in Java?
4. What is a Binary operator in Java?
5. What is Ternary operator in Java?
6. What are Relational Operators?
7. How many types of logical operators are supported by Java?

### ***Practical***

1.Trace the Program

```
class Program7
{
        public static void main(String[] args)
        {
                int a=60, b=550, sum;
                sum=a+b>600?20:40;
                System.out.println(sum);
    }
}
```

Trace the Program

```
class Program7
{
        public static void main(String[] args)
        {
                int x=5, y=4, z;
                x-=y;
                y=x+ x/y;
                System.out.println(x);
                System.out.println(y);
    }
}
```

Trace the snippet:-

a) If a=77, b=55 then find the value of
   a*=++a/6 + b++ % 3

b) If a=8, find the value of : a-= ++a +a++ + 4

## ***Day9***

### *Theory*

1. What is meant by a conditional statement?Explain.
2. Explain if-else-if construct with an example.
3.What is the control variable in a switch statement?
4.What will happen if 'break' statement is not used in a switch case? Explain.
5. Difference between the switch statement and if statement.

### *Practical*

1.Use if else statement for the given question:-

String str=(num>0)?(a%2==0)?"Positive Even Number":"Positive Odd Number":"Negative Number";

2. Use the switch case for the given question:-

```
if(num==10)
        value=num*10;
if(num==20)
        value=num*20;
if(num==50)
        value=num*50;
```

3. A local train charges fare from passengers in based on the distance traveled as per the tariff given below;

| DISTANCE TRAVELED | FARE |
|---|---|
| Up to 10 km | Rs 4/km |
| 11 to 20 km | Rs 5/km |
| 21 to 30km | Rs 6/km |
| 31km and above | Rs 7/km |

Write a java program to take the input from the user for distance traveled then calculate and display the fare to be paid.

4. Write a java program to use switch case to find the following:-
case 'c': Volume of a cube case 'd': volume of cuboid

case ‘s’:  Volume of a sphere  case ‘o’: volume of cone

***Day10***

***Theory***

1.What are the similarities and differences between while and do while loop?
2.Difference between a Null Loop and an Infinite Loop.

***Practical***

1. Trace the output and mention how many times the loop runs

```
class Program1
{
	public static void main(String[] args)
	{
		int x=1;
		while(x>-5)
		{
			System.out.print(x+" ");
			System.out.print(--x*2);
			System.out.println();
			--x;
			System.out.println(x);
		}
	}
}
```

2.Write a java program to accept a number and check whether it is a 'Spy Number' or not. (A number is a spy if the sum of its digits equals the product of its digits.)
Example: Sample Input: 1124
Sum of the digits = 1 + 1 + 2 + 4 = 8
Product of the digits = 1*1*2*4 = 8

3. Write a java program to accept a number. Check and display whether it is a Niven number or not. (A number is said to be Niven which is divisible by the sum of its digits).
Example: Sample Input 126
Sum of its digits = 1 + 2 + 6 = 9 and 126 is divisible by 9.

4. Write a java program to accept two numbers and find the Greatest Common Divisor(G.C.D) of entered numbers.
Sample input: 25,45
Sample output: Greatest common divisor =5

## ***Day11***

### *Theory*

1.What is a method?What are the types of methods in Java?
2. Explain the function of a return statement in Java Programming?
3.Difference between formal and actual argument.
4. What is the role of the Keyword void in declaring functions?
5. If a method contains several return statements , how many of them will be executed?
6. When a function returns the value, the entire method call can be assigned to a variable. Yes or true, Explain.

### *Practical*

1. Trace the Program

```
class Square
{
	public static void main(String[] args)
	{
		int sq = square(23);
		System.out.println("Square="+sq);
	}
	public static int square(int a)
	{
		return(a*a);
	}
}
```

2. Trace the program

```
class Program1
{
	public static void main(String[] args)
	{
		test1(113);
	}
	public static void test1(int n)
	{
		for(int x=1; x<=n; x++)
		if(n%x == 0)
		System. out.println(x);
	}
}
```

3. Trace the program

```
class Test1
{
        public static void main(String[] args)
        {
                char ch='$';
                String str=check(ch);
                System.out.println(str);
        }

        public static String check(char ch)
        {
           if(ch>='A' && ch<='Z' ||ch>='a' && ch<='z')
                {
                        return "Alphabet" ;
                }
                else if(ch>='0' && ch<='9')
                {
                        return "Number";
                }
                else
                    return "Special Character";
        }

}
```

4. Trace the program

```
class Test1
{
        public static void main(String[] args)
        {

                char ch=test(40,30);
                System.out.println(ch);
        }

        public static char test(int a, int b )
        {
           if(a>b)
                        a=a+b;
                else
                        a=a-b;
```

return ((char)a); } }

***Day12***

**LOGICAL PROGRAMMINGS**

1) Write a java program using methods to swap two values
    a. Using third variables
    b. Without using third variables
2) Write a program to using method to find out:-
    a. largest of 2 numbers
    b. largest of 3 numbers
    c. smallest of 2 numbers
    d. smallest of 3 numbers
3) Write a java program to print 1 to n numbers.
4) Write a java program to display the sum of 1 to n numbers
5) Write a java to accept a number from used and check whether the entered number is even or odd.
6) Write a java program to display prime numbers from 1 to n.
7) Write a program in java to check whether the given number is prime or not.
8) Write a program to find the sum of prime numbers.
9) Write a Java Program to check whether the entered number is perfect or not.
10) Write a program to display a range of perfect numbers.
11) Write a program to find the factor of a given number.
12) Write a program to find the factorial of a given number.
13) Write a program to find the factorial of a given range of numbers.
14) Write a program to reverse a number.
15) Write a program to display Fibonacci series of a number.
16) Write a program to check whether the entered number is a neon number or not.
17) Write a program to check whether the given number is a Strong number or not.
18) Write a program to check whether the given number is an Armstrong number or not.
19) Write a program to find out whether the given number is an Automorphic number or not.
20) Write a program to accept 2 numbers and find the Greatest Common Divisor(G.C.D) of those number
21) Write a program to check whether the given number is composite or not.
22) Write a program to find whether the given year is a leap year or not.
23)Write a program to check whether the given number is a Happy number or not.
24) Write a program to find Xylem and Phloem number
25) Pattern Programs