<h1 style="text-align:center">Java Assignment</h1>

1. What is Java and why is it platform-independent

Java is the high-level programming language which is used to make software.

in java programming language WORA-write once and runs anywhere. That why java is independent to any platform.

Because when you compile java code it converts to bytecode when it converts it runs on any platform that has JVM (java virtual machine).

2. Explain the features of java.

Java is simple programming language because it remove complex feature like pointer, operator overloading.

Java is object oriented programming language it supports.

Encapsulation.

Polymorphism.

Abstraction.

Inheritance.

3. What is difference between JDK, JRE and JVM

JDK – Java Development Kit.

 Jdk is the kit which use the tools to convert java file into class file.

JRE – Java Runtime Environment.

 In java jre use for the make the code run properly.

JVM – Java Virtual Machine.

 Jvm runs java program to computer machine code language that computer can understand and runs the code.

4.What is bytecode in java.

When javac compiler compile .java file into .class file that class contains the formate of code that called bytecode.

Bytecode can run in any OS system which contains jvm.

5.Explain the concept of object oriented programming.

1.Encapsulation

Encapsulation means binding data together as singal unit and protect internal state from unauthorized access.

2.Abstraction

Abstraction is the process of hiding implementation details and showing only essential features of an object.

It focuses on *what an object does* instead of *how it does it*.

Abstraction reduces program complexity by exposing only relevant data and behavior.

3.Polymorphism.

Polymorphism means "many forms."

It allows one method name to be used in different ways.

The same action can behave differently depending on the situation.

Polymorphism makes programs more flexible.

4.Inheritance

Inheritance is the process where one class gets the properties and methods of another class.

The class that gives properties is called the ***parent (super) class***.

The class that receives properties is called the ***child (sub) class***.

The keyword `extends` is used to inherit a class in Java.

A child class can use methods and variables of the parent class

1.HELLO WORLD

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

        System.out.println("Hello world !!");
    }
}
```

output :- Hello world !!

2.Addition of Two no

```java
import java.util.Scanner;

public class Addtwono {

    public static void main(String[] args){

        Scanner sc=new Scanner(System.in);

        System.out.println("Enter 2 no");
        int a= sc.nextInt();
        int b=sc.nextInt();

        System.out.println("Addition is:"+(a+b));
    }
}
```

Output:-

Enter 2 no

10

20

Addition is:30

3.Largest Three no.

```java
import java.util.Scanner;

public class Largest {

    public static void main(String[] args){

        Scanner sc=new Scanner(System.in);

        System.out.println("Enter 3 no");
        int a= sc.nextInt();
        int b= sc.nextInt();
        int c= sc.nextInt();
```

```
        b=a>b?a:b;
        b=c>b?c:b;

        System.out.println("LArgest no is: "+b);

    }
```

Output:-

Enter 3 no

12

4

23

Largest no is: 23

Enter 3 no

10

20

30

Largest no is: 30

4.Odd and even.

```java
import java.util.Scanner;
public class OddEven {

    public static void main(String[] args){

        Scanner sc=new Scanner(System.in);

        System.out.println("Enter a no:");
        int a=sc.nextInt();

        if (a%2==0){
            System.out.println(a +" is Even no");
        }else {
            System.out.println(a +" is Odd No");
        }

    }

}
```
Output:-

Enter a no:

12

12 is Even no

Enter a no:

11

11 is Odd No

5.Positive or negative.

```java
import java.util.Scanner;
public class PosNeg {

    public static void main(String[] args){

        Scanner sc=new Scanner(System.in);

        System.out.println("Enter a no:");
        int n= sc.nextInt();

        if (n>0)
            System.out.println("No is Positive");
        else
            System.out.println("No is Negative");
    }
}
```

Output:-

Enter a no:

12

No is Positive

Enter a no:

-9

No is Negative