**1.Write a program to find area of the rectangle.**

**import** java.util.\*;

**public** **class** virtusa

{

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

Double length,width,area;

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Enter length");

length=sc.nextDouble();

System.***out***.print("Enter width");

width=sc.nextDouble();

area=length\*width;

System.***out***.println("Area of rectangle");

}

}

OUTPUT:

Enter length20.6

Enter width36.7

Area of rectangle:756.0200000000001

**2.Write a program to check the given no is Armstrong or not(153 is Armstrong no 1\*1\*1+5\*5\*5+3\*3\*3=153)**

**import** java.util.\*;

**class** Armstrong

{

**public** **static** **void** main(String args[])

{

Scanner sc=**new** Scanner(System.***in***);

**int** n,c,r,s=0;

System.***out***.println("Enter the number");

n=sc.nextInt();

c=n;

**while**(c!=0)

{

r=c%10;

s=s+r\*r\*r;

c=c/10;

}

**if**(s==n)

System.***out***.println(n+" is an Armstrong number");

**else**

System.***out***.println(n+" is not an Armstrong number");

}

}

OUTPUT:

Enter the number

153

153 is an Armstrong number

**3. write a java program to check given number is palindrome or not?**

**import** java.util.Scanner;

**public** **class** Palindrome {

**public** **static** **void** main(String args[])

{

Scanner in = **new** Scanner(System.***in***);

System.***out***.print("Input a number: ");

**int** n = in.nextInt();

**int** sum = 0, r;

**int** temp = n;

**while**(n>0)

{

r = n % 10;

sum = (sum\*10)+r;

n = n/10;

}

**if**(temp==sum)

System.***out***.println("It is a Palindrome number.");

**else**

System.***out***.println("Not a palindrome");

}

}

OUTPUT :

Input a number: 454

It is a Palindrome number.

Input a number: 345

Not a palindrome

**4.write a java program to generate first N prime numbers?**

**import** java.util.Scanner;

**public** **class** virtusa

{

**public** **static** **void** main(String[] args)

{

**int** ct=0,n=0,i=1,j=1;

**while**(n<10)

{

j=1;

ct=0;

**while**(j<=i)

{

**if**(i%j==0)

ct++;

j++;

}

**if**(ct==2)

{

System.***out***.printf("%d ",i);

n++;

}

i++;

}

}

}

OUTPUT:

2 3 5 7 11 13 17 19 23 29

**5. write a java program to print even numbers in between given two numbers?**

**import** java.util.Scanner;

**public** **class** Even{

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

Scanner sc=**new** Scanner(System.***in***);

**int** n1=sc.nextInt();

**int** n2=sc.nextInt();

System.***out***.println("Even number from "+n1+" to "+n2+" are:");

**for**(**int** i=n1;i<=n2;i++) {

**if**(i%2==0) {

System.***out***.println(i+" ");

}

}

}

}

OUTPUT:

20

50

Even number from 20 to 50 are:

20

22

24

26

28

30

32

34

36

38

40

42

44

46

48

50

1**. What is abstraction** ?

Abstraction is one of the key concepts  of object-oriented programming (OOP) languages. Its main goal is to handle complexity by hiding unnecessary details from the user. That enables the user to implement more complex logic on top of the provided abstraction without understanding or even thinking about all the hidden complexity.

That’s a very generic concept that’s not limited to object-oriented programming. You can find it everywhere in the real world.

2. **What is Encapsulation?**

Encapsulation is one of the four fundamental OOP concepts. The other three are inheritance, polymorphism, and abstraction.

Encapsulation in Java is a mechanism of wrapping the data (variables) and code acting on the data (methods) together as a single unit. In encapsulation, the variables of a class will be hidden from other classes, and can be accessed only through the methods of their current class. Therefore, it is also known as data hiding.

To achieve encapsulation in Java −

* Declare the variables of a class as private.
* Provide public setter and getter methods to modify and view the variables values.

**3.what is jdk?**

The Java Development Kit (JDK) is a software development environment used for developing Java applications and applets. It includes the Java Runtime Environment (JRE), an interpreter/loader (Java), a compiler (javac), an archiver (jar), a documentation generator (Javadoc) and other tools needed in Java development.

**4.What is IVM?**

**Java Virtual Machine (JVM)** is a engine that provides runtime environment to drive the Java Code or applications. It converts Java bytecode into machines language. JVM is a part of Java Run Environment (JRE). In other programming languages, the compiler produces machine code for a particular system. However, Java compiler produces code for a Virtual Machine known as Java Virtual Machine.

**5. Define Inheritance?**

**Inheritance**  is a mechanism in which one object acquires all the properties and behaviors of a parent object. It is an important part of OOPs (Object Oriented programming system).

The idea behind inheritance in Java is that you can create new classes that are built upon existing classes. When you inherit from an existing class, you can reuse methods and fields of the parent class. Moreover, you can add new methods and fields in your current class also.

Inheritance represents the**IS-A relationship** which is also known as a parent-child relationship.

**6. How java achieved platform independence?**

 Java is a platform independent programming language, Because when you install jdk software on your system then automatically JVM are installed on your system. For every operating system separate JVM is available which is capable to read the **.class** file or **byte code**. When we compile your Java code then .class file is generated by javac compiler these codes are readable by JVM and every operating system have its own JVM so JVM is platform dependent but due to JVM java language is become platform independent.

**7. Write the syntax of main function?**

Java main method is the entry point of any java program. Its syntax is always public static void main(String[] args)

Syntax:

Main.java:

public class Main {

     public static void main (String[] args)

     {

         System.out.println("Hello World!!");

     }

}

**8. What is conditional operator?**

The conditional operator is a ternary operator (it has three operands) and is used to evaluate boolean expressions, much like an if statement except instead of executing a block of code if the test is true, a conditional operator will assign a value to a variable. A conditional operator starts with a boolean operation, followed by two possible values for the variable to the left of the assignment (=) operator. The first value (the one to the left of the colon) is assigned if the conditional (boolean) test is true, and the second value is assigned if the conditional test is false. In below example, if variable a is less than b then tje variable x value would be 50 else x =60.

**9. How many datatypes in java?**

Java has two categories of data:

* **Primitive Data Type:** such as boolean, char, int, short, byte, long, float and double
* **Non-Primitive Data Type or Object Data type:** such as String, Array, etc.

**10. What is constant? How it is declared?**

A constant holds a value that does not change. A constant declaration specifies the name, data type, and value of the constant and allocates storage for it. The declaration can also impose the NOT NULL constraint.

* To turn an ordinary variable into a constant, you have to use the keyword "final."
* As a rule, we write constants in capital letters to differentiate them from ordinary variables.