Name: N.T.Ajay Ratnam

Pin no:17551A0458

Assignment-1

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

A). import java.util.Scanner;

public class Area{

public Static void main(String Args[]){

Scanner sc=new Scanner(System.in);

float length=sc.nextFloat();

float width=sc.nextFloat();

float Area=length\*width;

System.out.println(Area);

}

}

**Output**:

i/p-1 i/p-2

(length) 6 7

(width) 4 2.5

(Area) 24 17.5

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

A). import java.util.Scanner;

public class Program{

public static void main(String[] args)

{

Scanner in=new Scanner(System.in);

int number=in.nextInt();

int sum=0,rem;

int num=number;

while(num>0) {

rem=num%10;

sum=sum+(rem\*rem\*rem);

num=num/10;

}

if(sum==number)

System.out.println(number+" is a Amstrong number");

else

System.out.println(number+" is not a Amstrong number");

}

}

**Outputs:** i/p-1: 407 407 is a Amstrong number

i/p-2: 144

144 is not a Amstrong number

**3). Write a java program to check the given no is palindrome or not?**

A). import java.util.Scanner;

public class Program

{

public static void main(String[] args) {

Scanner in=new Scanner(System.in);

int number=in.nextInt();

int sum=0,rem;

int num=number;

while(num>0){

rem=num%10;

sum=(sum\*10)+(rem);

num=num/10;

}

if(sum==number)

System.out.println(number+" is a palindrome");

else

System.out.println(number+" is not a palindrome");

}

}

**Output:**

1001 is palindrome

113 is not a palindrome

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

A). import java.util.Scanner;

public class Program

{

public static void main(String[] args) {

Scanner in=new Scanner(System.in);

int r=in.nextInt();

int i,j,count;

for(i=2;i<=r;i++){

count=0;

for(j=2;j<=i/2;j++){

if(i%j==0){

count+=1;

}

}

if(count==0){

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

}

}

}

}

**Output:**

i/p-1: 30 (range)

2 3 5 7 11 13 17 19 23 29

i/p-2: 100

2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79

83 89 97

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

A). import java.util.Scanner;

public class Evenrange

{

public static void main(String[] args) {

Scanner in=new Scanner(System.in);

int lower=in.nextInt();

int upper=in.nextInt();

int i;

for(i=lower;i<=upper;i++){

if(i%2==0){

System.out.print(i+” ”);

}

}

}

}

**Output:**

10 (lower)

50(upper)

10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50

**Theory Questions:**

**1)What is abstraction?**

Abstraction is the concept of object-oriented programming that shows only essential details and hides unnecessary information to user.

**2)What is Encapsulation?**

In java, encapsulation is the process of wrapping data and code together

into a single unit means it hides the parent class by declaring it as private class. It doesn’t allow the data or variables to outside and it can be accessed through only member function declared inside.

**3)What is JDK?**

JDK (java development kit) that allows developers to create java programs that can be executed. JDK is one of the three core technology packages that used in java programming.it offers a collection of tools and libraries that used in java applications.

**4)What is JVM?**

JVM (java virtual machine) is included in both JDK and JRE. while running program using jdk or jre goes into JVM.it is responsible for executing java program line by line.so it acts as interpreter.

**5)Define Inheritance?**

Inheritance means that base class acquires properties of parent class. The process behind is that we can create new classes and can use the methods of parent class**.**

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

Java is most widely used application programming language because of its platform independence also called as "write once run anywhere" feature which allows java programs to run any kind of platform, operating system or machine.

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

**public class** program

{

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

{

---------------------

-------------------------

System.out.println(“Hello world”);

}

}

**8)What is conditional operator?**

Conditional operator is also known as ternary operator. It is simplified syntax for if-else statement.it evaluates the Boolean expression true or false.

**Syntax:**

(Condition)? if true: if false.

**9). How many data types in java?**

There are 8 primitive data types in java

byte, short, int, float, long, double, char, Boolean.

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

Constant is a variable whose value doesn’t change, once it was assigned.

Java doesn’t have built-in support for constants. while declaring a constant there is need to add keyword final first.

**Declaration:**

**final** data-type variable\_name=value;