1. **Write a program to calculate perimeter and area of rectangle. (hint : area = length \* breadth ,**

**perimeter=2\*(length+breadth)) .**

import java.util.Scanner;

public class SetA1 {

public static void main(String[] args) {

Scanner in= new Scanner(System.in);

int a, p,l,b;

System.out.println("Enter length and breadth");

l=in.nextInt();

b=in.nextInt();

a=1\*b;

p=2\*(1+b);

System.out.println("Area of rectangle is"+a);

System.out.println("Perimeter of rectangle is"+p);

}

}

1. **Accept a number as Commandline argument and check if it is divisble by 5**

public class DivisibleByFive {

public static void main(String[] args) {

if (args.length == 0) {

System.out.printin("Please provide a number as a command-line argument.");

return;

}

int number = Integer.parsetnt(args[0]);

if (number % 5 == 0) {

System.out.println(number + " is divisible by 5.");

} else {

System.out.printin(number + " is not divisible by 5.");

}}

}

1. **Write a program to accept n numbers and find their sum and average**

import java.util.Scanner;

public class SumandAverage {

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

Scanner scanner = new Scanner (System.in) ;

System.out.print ("Enter the number of elements: ");

int n = scanner.nextInt();

if (n <= 0) {

System.out.println("Number of elements must be greater than zero.");

return;

}

int sum = 0;

System.out.println("Enter the numbers:");

for (int i = 0; i <n; itt) {

sum += scanner.nextInt();

}

System.out.println("Sum: " + sum);

System.out.println("Average: "+ (sum / n))3;

}}

Set b .\_ **Write a program to accept a number from user. Check whether number is prime or not.**

**Use BufferedReader class for accepting input from user.**

**Ans :-**

package simple;

import java.io.BufferedReader;

import java.io.InputStreamReader;

public class PrimeCheck {

public static void main(String[] args)throws Exception{

BufferedReader reader = new BufferedRead(enrew InputStreamReader (System.in));

System.out.print("Enter a number: ");

int number = Integer.parseint (reader.readLine());

if (number <= 1) {

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

return;

}

for (int i = 2; i <= number / 2; i++) {

if (number % i == 0) {

System.out.printin(number + " is not a prime number.");

return;

}

}

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

}

**2. Accept a number and check if it is odd or even.**

package simple;

import java-.util.Scanner;

public class OddEvenCheck {

public static void main(String[] args) {

Scanner scanner = new Scanner (System.in);

System. out.print ("Enter a number: ");

int number = scanner.nextInt();

if (number 4 2 == 0) {

System. out.println(number + " is an even number.");

} else {

System. out.println(number + " is an odd number.");

}

scanner.close();

}

1. **to print the following pattern .**

**1**

**12**

**123**

public class NumberPattern {

public static void main(String[] args) {

for (int i = 1; i <= 3; itt) {

for (int j = 1; j <= if j++) {

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

}

System. out.println();

}

} }

**Assign 2**

**1. Write a program to print the area of a rectangle by creating a class named ‘Area’ having two**

**methods. First method named as 'setDim' takes length and breadth of rectangle as parameters and**

**the second method named as 'getArea’ returns the area of the rectangle. Length and breadth of**

**rectangle are entered through keyboard.**

package simple;

import java-util.Scanner;

class Area {

private double length;

private double breadth;

public void setDim(double length, double breadth) {

this.length = length;

this.breadth = breadth;

}

public double getArea() {

return length \* breadth;

}

public static void main(String[] args) {

Scanner scanner = new Scanner (System.in);

Area rectangle = new Area();

System.out.print ("Enter the length of the rectangle: ");

double length = scanner.nextDouble();

System.out.print ("Enter the breadth of the rectangle: ");

double breadth = scanner.nextDouble();

rectangle.setDim(length, breadth);

double area = rectangle.getArea();

System.out.println("The area of the rectangle is: " + area);

scanner.close();

}

}

**2. Create a class named ‘Student’ with String variable ‘name’ and integer variable 'roll\_no'.**

**Assign the value of roll\_noas '2' and that of name as "John" by creating an object of the class**

**Student**.

package simple;

public class Student {

String name;

int roll no;

public Student (String name, int roll no) {

this.name = name;

this.rolln o = roll no;

}

public static void main(String[] args) {

Student student = new Student("John", 2);

System.out.printin("Student Name: " + student.name);

System.out.printiln("Roll Number: " + student.roll\_no);

}

}

**B 1.Print the average of three numbers entered by user by creating a class named 'Average' having a**

**method to calculate and print the average.**

import java.util.Scanner;

public class Average {

public void calculateAndPrintAve(double numl, double num2, double num3) {

double average = (numl + num2 + num3) / 3;

System.out.printlin("The average of the three numbers is: " + average);

}

public static void main(String[] args) {

Scanner scanner = new Scanner (System.in);

System.out.print ("Enter the first number: ");

double numl = scanner.nextDouble();

System.out.print ("Enter the second number: ");

double num2 = scanner.nextDouble();

System.out.print ("Enter the third number: ");

double num3 = scanner.nextDouble();

Average avg = new Average ();

avg.calculateAndPrintAverage(numl, num2, num3);

scanner.close();

} }

**2.Write a java program that take input as a person name in the format of first, middle and last name**

**and then print it in the form last, first and middle name, where in the**

**middle name first character is capital letter.**

import java.util.Scanner;

public class NameFormatter {

public static void main(String[] args) {

Scanner scanner = new Scanner (System.in);

System.out.print ("Enter your first name: ");

String firstName = scanner-nextLine();

System.out.print ("Enter your middle name: ");

String middleName = scanner.nextLine();

System.out.print ("Enter your last name: ");

String lastName = scanner.nextLine();

if (!middleName.isEmpty()) {

middleName = middleName.substring(0, 1).toUpperCase() + middleName.substring(1) .toLowerCase();

}

System.out.println("Formatted Name: " + lastName + ", " + firstName + " " + middleName);

scanner.close();

}}

**Assginment3**

**1. Write a Java program to print the sum of elements of the array. Also display array elements in**

**ascending order**.

package simple;

import java.util-Arrays;

import java.util.Scanner;

public class ArraySumAndSort {

public static void main(String[] args) {

Scanner scanner = new Scanner (System.in);

System. out.print ("Enter the number of elements in the array: ");

int n = scanner.nextInt();

int[] array = new int[n];

System.out.println("Enter the elements of the array:");

for (int i = 0; i <n; itt) {

array[i] = scanner.nextInt();

}

int sum = 0;

for (int num : array) {

sum t= num;

}

System.out.println("Sum of the elements: " + sum);

Arrays.sort(array);

System. out.println("Array elements in ascending order: "+ Arrays. tostring(array)) ;|

scanner.close();

}

}

**2. Write a Java program create class as MyDate with dd,mm,yy as data members. Write default and**

**parameterized constructor. Display the date in dd-mm-yy format.(Use this keyword)**

public class MyDate {

private int dd, mm, yy;

public MyDate() {

this.dd = 1;

this.mm = 1;

this.yy = 2000;

}

public MyDate(int dd, int mm, int yy) {

this.dd = dd;

this.mm = mm;

this.yy =yy;

}

public void displayDate() {

System. out.printf ("%02d-%02d-204d\n", this.dd, this.mm, this.yy);

}

public static void main(String[] args) {

MyDate defaultDate = new MyDate();

System. out.print ("Default Date: ");

defaultDate.displayDat(e);

MyDate customDate = new MyDate(15, 12, 2024);

System. out.print ("Custom Date: ");

customDate.displayDat(e);

}

**B. 1. Define a class MyNumber having one private integer data member. Write a default constructor**

**initialize it to O and another constructor to initialize it to a value. Write methods isNegative,**

**isPositive, isOdd, iseven. Use command line argument to pass a value to the object and perform the**

**above tests.**

public class MyNumber {

private int number;

public MyNumber() {

this.number = 0;

}

public MyNumber(int number) {

this.number = number;

}

public boolean isNegative() {

return this-.number < 0;

}

public boolean isPositive() {

return this.number > 0;

}

public boolean isOdd() {

return this.number % 2 != 0;

}

public boolean isEven() {

return this-number % 2 == 0;

}

public static void main(String[] args) {

if (args.length < 1) {

System.out.printin("Please provide a number as a command-line argument.");

return;

}

Int inputNumber = Integer-.parseInt(args[0]);

MyNumber myNumber = new MyNumber (inputNumber);

System.out.printin("Number: " + inputNumber);

System.out.printin("Is Negative: " + myNumber.isNegative());

System.out.println("Is Positive: " + myNumber.isPositive());

System.out.printin("Is Odd: " + myNumber-isOdd());

System.out.printin("Is Even: " + myNumber.isEven());

}

}

**2. Write a java program which define class Employee with data member as name and salary. Program**

**store the information of 5 Employees. (Use array of object)**

import java.util.Scanner;

public class Employee {

private String name;

private double salary;

public Employee (String name, double salary) {

this.name = name;

this.salary = salary;

}

public void displayDetails() {

System.out.printin("Name: "+ this.name + ", Salary: " + this.salary);

}

public static void main(String[] args) {

Scanner scanner = new Scanner (System.in);

Employee[] employees = new Employee[5];

for (int i = 0; i < employees.length; i++) [{

System.out.printlin("Enter details for Employee "+ (i + 1) + ":");7

System.out.print("Name: ");

String name = scanner.nextLine();

System.out.print("Salary: ");

double salary = scanner.nextDouble();

scanner.nextLine();

employees[i] = new Employee(name, salary);

}

System. out.printin("\nEmployee Details:");

for (Employee employee : employees) fi

employee.displayDetails();

} scanner.close(); } }

**3. Write a java program to create class Account (accno, accname, balance). Create an array of “n”**

**Account objects. Define static method “sortAccount” which sorts the array on the basis of balance.**

**Display account details in sorted order.**

import java.util.Arrays;

import java.util.Scanner;

public class Account {

privateint accno;

private String accname;

private double balance;

public Account (int accno, String accname, double balance) {

this.accno = accno;

this.accname = accname;

this.balance = balance;

}

public void displayDetails() {

System.out.println("Account No: " + this.accno + ", Name: " + this.accname + ", Balance:

}

public static void sortAccount (Account[] accounts) {

Arrays.sort(accounts, (al, a2) -> Double.compare(al.balance, a2.balance));

}

public static void main(String[] args) {

Scanner scanner = new Scanner (System.in);

System.out.print ("Enter the number of accounts: ");

int n = scanner.nextIn(t);

scanner .nextLine ();

Account[] accounts = new Account[n];

for (int i = 0; i <n; it+) {

System.out.println("Enter details for Account "+ (i +1)+"

System. out.print ("Account Number: ");

int accno = scanner-nextInt();

scanner.nextLine(); // Consume the newline character

ystem. out.print ("Account Name: ");

String accname = scanner.nextLine();

System.out.print("Balance: ");

double balance = scanner.nextDouble();

scanner.nextLine();

scanner.nextLine();

accounts[i] = new Account(accno, accname,

}

Account. sortAccount (accounts);

System.out.printlin("\nAccount Details (Sorted by Balance):

for (Account account : accounts) {

account.displayDetails();

}

scanner.close(); }

}