**ROLLNO:21SW084**

**OOP LAB #4 Tasks**

**Task #1 :Write a java program that takes a single character as input and tells whether it is a vowel or a consonant. (Use Switch Statement).**

**import** java.util.Scanner;

**public** **class** vowel {

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

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

String input;

**char** a;

System.***out***.println("enter a character");

input=scan.next();

a=input.charAt(0);

**switch** (a){

**case** 'a':

System.***out***.println("Its a vowel");

**break**;

**case** 'e':

System.***out***.println("Its a vowel");

**break**;

**case** 'i':

System.***out***.println("Its a vowel");

**break**;

**case** 'o':

System.***out***.println("Its a vowel");

**break**;

**case** 'u':

System.***out***.println("Its a vowel");

**break**;

**default**:

System.***out***.println("Its a consonent");

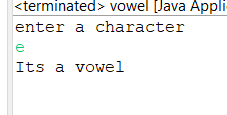
**break**;

}

}

}

**OUTPUT**



**Task#2 : Write a java program that performs arithmetic operations on two numbers after taking 3 runtime arguments; 1st number, 2nd number and the operators (+, -, /, \*) and prints the result.**

**import** java.util.Scanner;

**public** **class** calculator {

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

**char** operator;

Double number1, number2, result;

// create an object of Scanner class

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

// ask users to enter operator

System.***out***.println("Choose an operator: +, -, \*, %, or /");

operator = input.next().charAt(0);

// ask users to enter numbers

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

number1 = input.nextDouble();

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

number2 = input.nextDouble();

**switch** (operator) {

// performs addition between numbers

**case** '+':

result = number1 + number2;

System.***out***.println(number1 + " + " + number2 + " = " + result);

**break**;

// performs subtraction between numbers

**case** '-':

result = number1 - number2;

System.***out***.println(number1 + " - " + number2 + " = " + result);

**break**;

// performs multiplication between numbers

**case** '\*':

result = number1 \* number2;

System.***out***.println(number1 + " \* " + number2 + " = " + result);

**break**;

// performs division between numbers

**case** '/':

result = number1 / number2;

System.***out***.println(number1 + " / " + number2 + " = " + result);

**break**;

**case** '%':

result=number1%number2;

System.***out***.println(number1 + " % " + number2 + " = " + result);

**default**:

System.***out***.println("Invalid operator!");

**break**;

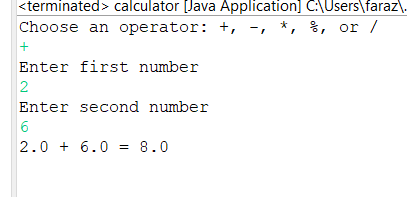
}

input.close();

}

}

**OUTPUT**



**Task#3 : Write a java program which check whether a number is prime or not**.

**import** java.util.Scanner;

**public** **class** prime {

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

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

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

**int** m=n/2;

**int** flag=0;

**int** i;

**if**(n==0||n==1){

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

}

**else**{

**for**(i=2;i<=m;i++){

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

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

flag=1;

**break**;

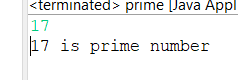
} } //loop closed

**if**(flag==0) { System.***out***.println(n+" is prime number"); }

}

}}

**OUTPUT**



**Task#4: Write a java program that takes five subjects marks of a student and calculate their percentage and grade**.

**import** java.util.Scanner;

**public** **class** marks {

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

**float**[] marks = {0,0,0,0,0};

**float** percentage=0;

String grade="";

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

**int** count;

**for**(**int** i=0;i<5;i++) {count=i+1;

System.***out***.println("Input marks of "+count+"th subject ");

marks[i]=scan.nextFloat();

**if**(marks[i]>100) {

System.***out***.println("Marks must be under 100");

i--;

}

}

**for**(**int** i=0;i<5;i++) {

percentage+=marks[i];

}

percentage=percentage/5;

**for**(**int** i=1;i<6;i++) {

**if**(percentage>0)

{

**if**(percentage>50) {

**if**(percentage>60) {

**if**(percentage>75) {

**if**(percentage>85) {

**if**(percentage>95) {

grade="A+";

**continue**;

}

grade="A";

**continue**;

}

grade="B+";

**continue**;

}

grade="B";

**continue**;

}

grade="C+";

**continue**;

}

grade="C";

**continue**;

}

grade="F";

**continue**;

}

System.***out***.println("The percentage of student is "+percentage+"%");

System.***out***.println("The grade of student is "+grade);

}}

**OUTPUT**

