* **Task 1: Simple Calculator Application**

**package** calculator;

**import** java.util.Scanner; //scanner class is used to take inputs from user

**public** **class** Calculate {

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

// **TODO** Auto-generated method stub

**double** num1,num2,result;

**char** operator;

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

System.***out***.println("choose operator '+, -, \*, /'");

operator=sc.next().charAt(0);//choosing operation to be performed

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

num1=sc.nextDouble();//reading first number

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

num2=sc.nextDouble();//reading second number

**switch**(operator){

**case** '+':

result=num1+num2;

**char** ch;

System.***out***.println("click equals to get answer");

ch=sc.next().charAt(0);

**switch**(ch) {

**case** '=':

System.***out***.println(result);

}

**break**;

**case** '-':

result=num1-num2;

**char** ch1;

System.***out***.println("click equals to get answer");

ch1=sc.next().charAt(0);

**switch**(ch1) {

**case** '=':

System.***out***.println(result);

}

**break**;

**case** '\*':

result=num1\*num2;

**char** ch2;

System.***out***.println("click equals to get answer");

ch2=sc.next().charAt(0);

**switch**(ch2) {

**case** '=':

System.***out***.println(result);

}

**break**;

**case** '/':

result=num1/num2;

**char** ch3;

System.***out***.println("click equals to get answer");

ch3=sc.next().charAt(0);

**switch**(ch3) {

**case** '=':

System.***out***.println(result);

}

**break**;

**default**:

System.***out***.println("invalid operation");

**break**;

}

sc.close();

}

}

**OUTPUT (sample)**

Choose operator '+, -, \*, /'

+

Enter first number:

5

Enter second number

5

Result: 10.0

* **Task 2:** Number Guessing Game

**import** java.util.Scanner;

**import** java.lang.Math;

**public** **class** GuessingGame {

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

**int** answer = (**int**)(Math.*random*() \* 100) + 1;

// generating a random number between 1 and 100

**int** k = 0;//initial number of trials

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

//creating scanner object to read user input

System.***out***.println("I'm thinking of a number between 1 and 100.you have to guess the number.");

**while** (k >= 0) {

System.***out***.println("Enter your guess: ");

**int** guess = input.nextInt();

k++;

// if the user guesses correctly, print the congratulation message

**if** (guess == answer) {

System.***out***.println("You guessed the number!\nYou win!");

System.***out***.println("you guessed the number in"+k+"attempts");

**break**;

}

// if the user guesses greater than the number, print the numberis too high

**else** **if** (guess > answer) {

System.***out***.println("Your guess is too high.");

}

// if the user guesses less than the number, print the guess is too low

**else** {

System.***out***.println("Your guess is too low.");

}

}

}

}

**OUTPUT**

I'm thinking of a number between 1 and 100.you have to guess the number.

Enter your guess:

40

Your guess is too low.

Enter your guess:

80

Your guess is too low.

Enter your guess:

0

Your guess is too low.

Enter your guess:

90

Your guess is too high.

Enter your guess:

85

Your guess is too high.

Enter your guess:

83

Your guess is too high.

Enter your guess:

81

You guessed the number!

You win!

you guessed the number in 7 attempts