//Q1

package sheet4test;

import java.util.Scanner;

public class Sheet4Test {

public static void main(String[] args) {

System.out.print("Input any number for Square : ");

double x = new Scanner(System.in).nextDouble();

System.out.println("The Square for " + x + " is : " + square(x));

}

private static double square(double n){

return n\*n;

}

}

==============================================

//Q2

package sheet4test;

import java.util.Scanner;

public class Sheet4Test {

public static void main(String[] args) {

System.out.print("Input any number : ");

int x = new Scanner(System.in).nextInt();

System.out.println("The entered number is : " +

( even(x) ? "even" : "odd"));

}

private static boolean even(double n){

if(n%2 == 0)

return true;

return false;

}

}

==============================================

//Q3

package sheet4test;

import java.util.Scanner;

public class Sheet4Test {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

System.out.print("Input an Integer : ");

int x = input.nextInt();

System.out.println("The sum is : " + sumOfDigits(x));

}

private static int sumOfDigits(int n){

String s = n + "";

int sum = 0;

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

sum += Integer.parseInt(s.charAt(i) + "");

}

return sum;

}

}

===============================================

//Q4

package sheet4test;

import java.util.Scanner;

public class Sheet4Test {

public static void main(String[] args) {

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

int x = new Scanner(System.in).nextInt();

System.out.println("The sum of series is : " + operand(x));

}

private static int operand(int n){

int sum = 0;

for(int i = 1; i <= n; i ++){

sum += fact(i) / i;

}

return sum;

}

private static int fact(int x){

int fact = 1;

for(int i = 1; i <= x; i++){

fact \*= i;

}

return fact;

}

}

=====================================================

//Q5

//The class that contains main function

package sheet4test;

import java.util.Scanner;

import com.digital.numberspackage.FormatNumbers;

public class Sheet4Test {

public static void main(String[] args) {

System.out.print("Input ant decimal number : ");

int x = new Scanner(System.in).nextInt();

System.out.println("The binary value is : "

+ FormatNumbers.DecToBinary(x));

}

}

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

// the class that contains class FormatNumebrs

package com.digital.numberspackage;

public class FormatNumbers {

public static long DecToBinary(int d){

long binary = 0;

for(int i = 0; ; i++){

binary += (d%2) \* Math.pow(10, i);

if(d/2 == 0)

break;

d /= 2;

}

return binary;

}

}

====================================================

// Q6

package sheet4test;

import java.util.Scanner;

public class Sheet4Test {

public static void main(String[] args) {

System.out.println("1. Password must have at least 8 chars" +

"\n2. Password contains only letters and digit\n"

+ "3. Password must contains at least 2 digits");

System.out.print("\nInput a password : ");

String password = new Scanner(System.in).nextLine();

System.out.println("Password is " +

(validPassword(password) ? "" : "not ") +

"valid");

}

public static boolean validPassword(String password){

password = password.toUpperCase();

int NumberOfDigits = 0;

boolean containsLetters = false;

char ch;

// check if the password at least 8 length.

if(password.length() < 8)

return false;

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

ch = password.charAt(i);

// check if the ch is a number

if(ch >= '0' && ch <= '9')

NumberOfDigits++;

// check if the ch is a letter

else if(ch >= 'A' && ch <= 'Z')

containsLetters = true;

else

return false;

}

if(NumberOfDigits > 1 && containsLetters == true)

return true;

return false;

}

}