Q 1 Write a Java program that uses a Predicate to check if a given number is even or odd.

Create a Predicate<Integer> to test whether a number is even.

Use the test() method of Predicate to check if a number is even or odd and print the result.

Input: 6

Output: "6 is even"

//Q 1 Write a Java program that uses a Predicate to check if a given number is even or odd.

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// Input: 6

// Output: "6 is even"

package com.Assignments;

import java.util.function.Predicate;

import java.util.Scanner;

public class Assignment7\_1 {

public static void main(String args[]) {

Predicate <Integer> p=x->x%2==0;//gives boolean T or F

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

System.***out***.println("Enter number to be checked: ");

int x=s.nextInt();

if(p.test(x))

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

else System.***out***.println(x+" is odd number");

}

Enter number to be checked:

6

6 is even number

//Q 2 Write a Java program that uses a Consumer to print the name of a student in

// uppercase.

// Create a Consumer<String> to print the name of a student in uppercase.

// Accept a student name and print it in uppercase.

// Input: "John Doe"

// Output: "JOHN DOE"

package com.Assignments;

import java.util.function.Consumer;

public class Assignment7\_2 {

public static void main(String[] args) {

Consumer <String> s=x-> System.***out***.println(x.toUpperCase());

String y="John Doe";

s.accept(y);

}

}

JOHN DOE

//Q 3 Write a Java program that uses a Predicate to check if a given string contains

// the letter 'a'.

// Create a Predicate<String> to test whether the string contains the letter

// 'a' (case-insensitive).

// Use the test() method of the Predicate interface to check the string.

// Input: "Apple"

// Output: "Apple contains the letter 'a'"

//

//Input: "Banana"

//

// Output: "Banana contains the letter 'a'"

//

//Input: "Cherry"

//

// Output: "Cherry does not contain the letter 'a'"

package com.Assignments;

import java.util.Scanner;

import java.util.function.Predicate;

public class Assignment7\_3 {

public static void main(String[] args) {

try {

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

Predicate <String> p=x-> x.toLowerCase().contains("a");

System.***out***.println("Enter string to be checked for letter 'a' :");

String y=s.next();

if(p.test(y))

System.***out***.println("Given string contains letter a.");

else System.***out***.println("Given string doesn't contain letter a.");

}

catch (Exception e){

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

}

}

}

Enter string to be checked for letter 'a' :

Apple

Given string contains letter a.

//Q 4 Create a Function<Double, Double> that converts a temperature from Celsius

// to Fahrenheit using the formula:

// Fahrenheit = (Celsius \* 9/5) + 32

// Accept a Celsius temperature and print the equivalent Fahrenheit temperature.

// Input: 25.0

// Output: "25.0 Celsius is equal to 77.0 Fahrenheit"

package com.Assignments;

import java.util.Scanner;

class CelsiusToFahrenheit{

double CTF(double x,double y) {

y = (x \* 9/5) + 32;

return y;

}

}

public class Assignment7\_4 {

public static void main(String[] args) {

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

System.***out***.println("enter temperature in celcius: ");

double Celcius=s.nextDouble();

double Fahrenheit=0;

CelsiusToFahrenheit C=new CelsiusToFahrenheit();

System.***out***.println(Celcius +" Celcius is equal to " + C.CTF(Celcius,Fahrenheit)+" Fahrenheit");

}

}

enter temperature in celcius:

25

25.0 Celcius is equal to 77.0 Fahrenheit

//Q 5 Write a Java program that uses a Predicate to check if a given number is prime.

//Create a Predicate<Integer> that returns true if the number is prime,

//otherwise false. Use the test() method to check whether a number is prime.

//Example Input/Output: Input: 7 Output: "7 is prime"

//Input: 10 Output: "10 is not prime"

package com.Assignments;

import java.util.Scanner;

import java.util.function.Predicate;

public class Assignment7\_5 {

public static void main(String[] args) {

try{

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

Predicate <Integer> isPrime= x->{

if(x<=1) {

return false;

}

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

if(x%i==0) {

return false;

}

}

return true;

};

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

int num=s.nextInt();

if(isPrime.test(num)) {

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

}

else {System.***out***.println(num+" is not prime number.");}

}

catch(Exception e) {System.***out***.println(e);}

}

}

Enter number:

7

7 is a prime number.