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|  | **BAHRIA UNIVERSITY,**  **(Karachi Campus)**  *Department of Software Engineering*  **Digital Assignment 2 - Spring 2021** |

COURSE TITLE: **Object Oriented Programming** COURSE CODE:

Class: **BSE 2-B Morning Shift**: **Morning**

Course Instructor: **DR. SYED SAMAR YAZDANI** Time Allowed: **1 Week**

Submission Date: **07-06-2021**Max. Marks: **5 Marks**

**1.Create a class Vehicle. The class should have two fields-no of seats and no of wheels. Create two objects-Motorcycle and Car for this class. Your output should show the descriptions for Car and Motorcycle.**

**SOLUTION:**

**Vehicle Class:**

**package class1;**

**import java.util.Scanner;**

**public class Vehicle {**

**int no\_of\_seats ;**

**int no\_of\_wheels;**

**Vehicle(int no\_of\_seats,int no\_of\_wheels)**

**{**

**this.no\_of\_seats=no\_of\_seats;**

**this.no\_of\_wheels=no\_of\_wheels;**

**}**

**public void display()**

**{**

**System.out.println("Seats : "+no\_of\_seats);**

**System.out.println("Wheels: "+no\_of\_wheels);**

**}**

**Main:**

**package class1;**

**import java.util.Scanner;**

**public class Class1 {**

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

**Vehicle Motorcycle=new Vehicle(1,2);**

**Vehicle Car=new Vehicle(4,4);**

**System.out.println("¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬`");**

**System.out.println("#####For MoterCycle#####");**

**Motorcycle.display();**

**System.out.println("¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬");**

**System.out.println("#######For Car#####");**

**Car.display();**

**System.out.println("¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬");**

**}**

**}**

**Output:**

A picture containing graphical user interface

Description automatically generated

**2. Create a class with a method. The method has to decide whether a given year is a leap year or not. Note- A year is a leap year if: [CLO 3] • It has an extra day i.e. 366 instead of 365. • It occurs in every 4 year e.g. 2008, 2012 are leap years. • For every 100 years a special rule applies-1900 is not a leap year but 2000 is a leap year. In those cases, we need to check whether it is divisible by 400 or not.**

**Solution:**

**Leap Year:**

**public void checkyear(int d,int y)**

**{**

**if(d==366&&y%400==0)**

**{**

**System.out.println("So "+y+" is the leap year");**

**}**

**else if(d==366&&y%100==0)**

**{**

**System.out.println("So "+y+" is not the leap year");**

**}**

**else if(d==366&&y%4==0**

**{**

**System.out.println("So "+y+" is the leap year");**

**}**

**else**

**{**

**System.out.println("So "+y+" is not the leap year");**

**}**

**}**

**MAIN CLASS:**

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

**System.out.println("================================");**

**leapyear year=new leapyear();**

**year.checkyear(366, 2020);**

**System.out.println("================================");**

**}**

**}**

**Output:**



**3. Create a custom Exception class. You need to consider two integer inputs which must be supplied by the user. You will display the sum of the integers if and only if the sum is less than 100. If it is not less than 100, throw your custom exception. [CLO 4]**

**Solution:**

**Exception:**

**public class customexception extends Exception{**

**customexception()**

**{**

**super();**

**}**

**customexception(String message)**

**{**

**super(message);**

**}**

**}**

Main:

**package task;**

**import java.util.Scanner;**

**public class Task {**

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

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

**System.out.println("``````````````````````````````````");**

**try{**

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

**int x=sc.nextInt();**

**System.out.println("Input Second number");**

**int y=sc.nextInt();**

**int sum=x+y;**

**if(sum>100)**

**{**

**throw new customexception("Invalid Answer, Answer must be less than (100)");**

**}**

**else**

**{**

**System.out.println("Answer is: "+sum);**

**}**

**}**

**catch(customexception e)**

**{**

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

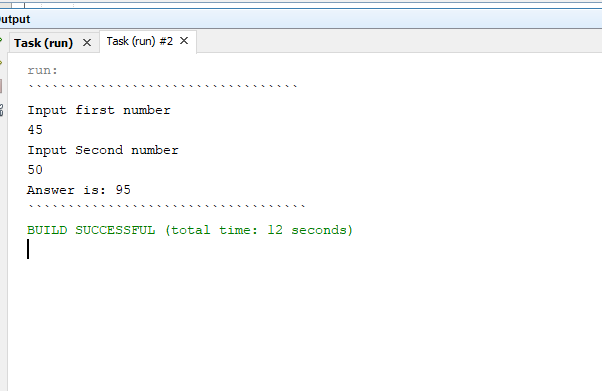
**}**

**System.out.println("```````````````````````````````````");**

**}**

**}**

**Output:**

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**Graphical user interface, text, application, email

Description automatically generated**