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| --- | --- | --- | --- |
|  | **COLLEGE OF COMPUTING AND INFORMATION SCIENCES** | | |
| **Lab Tasks** | | |
| **Course Title** | OOP | **Total Marks** | 60 |
| **Date** | 20-11-2022 | **Class ID** | 111728 |
| **Student Id** | 65309 | **Student Name** | SOHAIB ANJUM |

**Lab 1**

**Code**

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace lab1

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

private void Form1\_Load(object sender, EventArgs e)

{

}

private void ADD\_Click(object sender, EventArgs e)

{

int n1 = Convert.ToInt32(textBox1.Text);

int n2 = Convert.ToInt32(textBox2.Text);

if (rb1.Checked == true)

{

int ans = n1 + n2;

MessageBox.Show(ans.ToString(), "calculation",MessageBoxButtons.OKCancel,MessageBoxIcon.Question);

}

else if (rb2.Checked == true)

{

int ans = n1 - n2;

MessageBox.Show(ans.ToString(), "calculation");

}

}

private void button1\_Click(object sender, EventArgs e)

{

Form2 f2 = new Form2();

f2.Show();

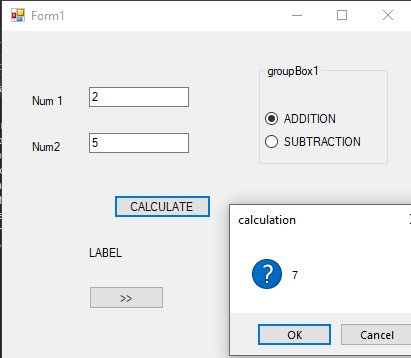
this.Hide();

}

}

}

**RESULT**



**Question2**

**Code**

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Data.SqlClient;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace OOPLAB\_TASK1

{

public partial class Form1 : Form

{

SqlConnection Con = new SqlConnection("Data Source=.;Initial Catalog=darazpk;User ID = sa; Password = 123; Integrated Security=True");

public Form1()

{

InitializeComponent();

}

private void button1\_Click(object sender, EventArgs e)

{

}

private void buttonE\_Click(object sender, EventArgs e)

{

Application.Exit();

}

private void buttonS\_Click(object sender, EventArgs e)

{

string un = textBox1.Text;

string pass = textBox2.Text;

string fn = textBox3.Text;

string ln = textBox4.Text;

string em = textBox5.Text;

string phone = textBox6.Text;

SqlCommand cmd = new SqlCommand("insert into form1 (empname , emppass , empfname , emplname , empemail , empphone) values ('" + textBox1.Text + " ','" + textBox2.Text + " ','" + textBox3.Text + " ','" + textBox4.Text + " ','" + textBox5.Text + " ','" + textBox6.Text + " ')", Con);

Con.Open();

cmd.ExecuteNonQuery();

Con.Close();

MessageBox.Show("Data entered ");

}

}

}

**Lab 3**

**Code**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace OOP\_LAB\_Task\_3

{

class author

{

string name = "Sohaib";

string email = "Sohiab@gmail.com";

string gender = "Male";

public author()

{

Console.WriteLine("Enter name:");

name = Console.ReadLine();

Console.WriteLine("Enter email:");

email = Console.ReadLine();

Console.WriteLine("Enter Gender:");

gender = Console.ReadLine();

}

public void show3()

{

Console.WriteLine("\*\*\*\*\*\*\*\*\*\*\*\*\*");

Console.WriteLine("Name is:" + name);

Console.WriteLine("Email is:" + email);

Console.WriteLine("Gender is:" + gender);

}

}

class circle

{

double radius = 5;

string color = "Blue";

public circle()

{

Console.WriteLine("Enter Radius:");

radius = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter Color:");

color = Console.ReadLine();

}

public void show()

{

Console.WriteLine("Radius is:" + radius);

Console.WriteLine("Color is:" + color);

Console.WriteLine("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

}

}

class rectangle

{

double length = 1;

double width = 1;

public rectangle()

{

Console.WriteLine("Enter Length:");

length = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter Width:");

width = Convert.ToInt32(Console.ReadLine());

}

public void show2()

{

Console.WriteLine("Length is:" + length);

Console.WriteLine("Width is:" + width);

}

}

class Program

{

static void Main(string[] args)

{

circle c1 = new circle();

c1.show();

rectangle r1 = new rectangle();

r1.show2();

author a1 = new author();

a1.show3();

}

}

}

****

**Lab 4**

**Code**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace OOP\_LAB\_TASK\_4

{

class car

{

public void engineWork(int m, string man, int d)

{

int distance = d;

int fuel = 1;

string manufacturer = man;

fuel = distance \* 2;

setModel(ref m);

Console.WriteLine("Manufacturer of Car is : " + man);

Console.WriteLine("Distance covered by car is:" + d);

setFuel(ref fuel);

}

public void setFuel(ref int fuel)

{

Console.WriteLine("Fuel consumed is:" + fuel);

}

public int setModel(ref int mode)

{

int model = mode;

Console.WriteLine("Model of car is:" + model);

return model;

}

}

class Program

{

static void Main(string[] args)

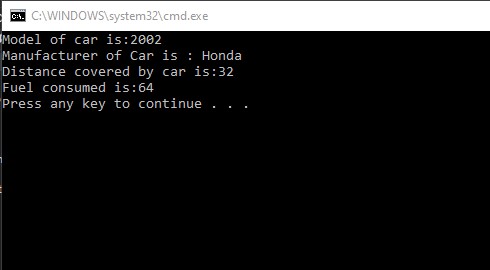
{

car c2 = new car();

c2.engineWork(2002, "Honda", 32);

}

}

}

**LAB 5**

**Code**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace OOP\_Lab\_Task\_5

{

class Student

{

public string name;

public int age;

public int admission\_number;

public string course;

public Student(string name, int age, int admission\_number, string course)

{

this.name = name;

this.age = age;

this.admission\_number = admission\_number;

this.course = course;

Console.WriteLine("Name is " + name + " , Age is : " + age + ", Admission number is : " + admission\_number + " And Course is : " + course);

}

}

class Programming

{

public string language;

public Programming(string language = null)

{

if (language != null)

{

this.language = language;

Console.WriteLine("I love " + language);

}

else

{

Console.WriteLine("I love programming languages");

}

}

}

class Rectangle

{

public int length;

public int breadth;

public Rectangle()

{

this.length = 0;

this.breadth = 0;

Console.WriteLine("Length: " + length + " Breadth : " + breadth);

}

public Rectangle(int length, int breadth)

{

this.length = length;

this.breadth = breadth;

Console.WriteLine("Length is " + length + " & Breadth is " + breadth);

}

public Rectangle(int size)

{

this.length = size;

this.breadth = size;

Console.WriteLine("Length is " + length + " & Breadth is " + breadth);

}

}

class Area

{

public int length;

public int breadth;

public Area(int length2, int breadth2)

{

length = length2;

breadth = breadth2;

}

public int returnArea()

{

Console.WriteLine("Area of rectangle is: " + length \* breadth);

return this.length \* this.breadth;

}

}

class Program

{

static void Main(string[] args)

{

Rectangle r1 = new Rectangle(5);

Student s1 = new Student("Sohaib", 80, 65309, "Obeject orented Language");

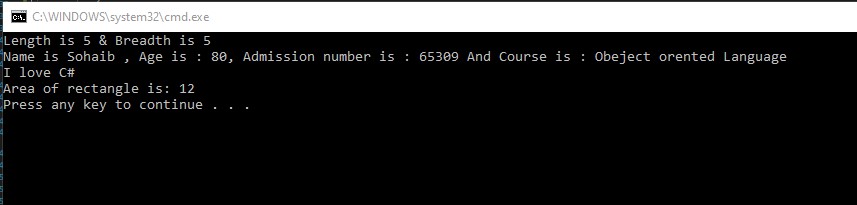
Programming p1 = new Programming("C#");

Area a1 = new Area(3, 4);

a1.returnArea();

}

}

}

**Lab 6**

**Code**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace OOP\_LabTask6

{

class LandTransport

{

public string Model { get; set; }

public int Wheels { get; set; }

public int doors { get; set; }

public int Speed { get; set; }

public int capacity { get; set; }

}

class car : LandTransport

{

public string BodyType { get; set; }

public int EngineSize { get; set; }

public bool AC { get; set; }

}

class bus : LandTransport

{

public int Seats { get; set; }

public int Standing { get; set; }

public bool Ramp { get; set; }

}

class Truck : LandTransport

{

public int Capacity { get; set; }

public int Axles { get; set; }

public bool SleeperCab { get; set; }

}

class bicycle : LandTransport

{

public int Gears { get; set; }

public bool Bell { get; set; }

public bool reflectors { get; set; }

}

class Human

{

public string name;

public char gender;

public int age;

public Human(string n, char g, int a)

{

name = n;

gender = g;

age = a;

}

public void show()

{

Console.WriteLine("Name: " + name);

Console.WriteLine("Gender: " + gender);

Console.WriteLine("Age: " + age);

}

}

class student : Human

{

public string PreviousEducation;

public string CurrentEducation;

public float PreviousCGPA;

public float CurrentCGPA;

public student(string pe, string ce, float pcgpa, float ccgpa) : base("Bangash", 'M', 22)

{

PreviousEducation = pe;

CurrentEducation = ce;

PreviousCGPA = pcgpa;

CurrentCGPA = ccgpa;

}

public void Sshow()

{

Console.WriteLine("Previous Education: " + PreviousEducation);

Console.WriteLine("Current Education: " + CurrentEducation);

Console.WriteLine("Previous CGPA: " + PreviousCGPA);

Console.WriteLine("Current CGPA: " + CurrentCGPA);

}

}

class Program

{

static void Main(string[] args)

{

car c1 = new car();

c1.BodyType = "big";

c1.AC = true;

c1.capacity = 8;

c1.doors = 6;

c1.EngineSize = 4800;

c1.Model = "Corola";

c1.Speed = 220;

c1.Wheels = 6;

Console.WriteLine(" Body Type is : " + c1.BodyType + "\n" + " It has AC or Not: " + c1.AC + "\n" + " Capcity is : " + c1.capacity + "\n" + " Doors are: " + c1.doors + "\n" + " Engine Size is " + c1.EngineSize + " Model is : " + c1.Model + "\n" + " Speed and Wheels are : " + c1.Speed +

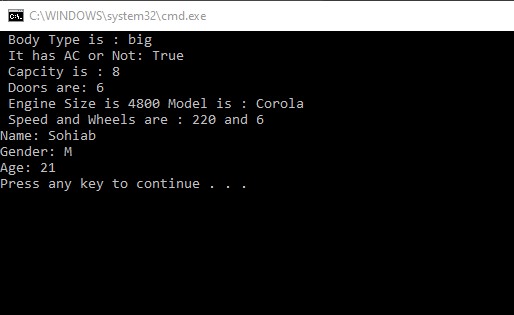
" and " + c1.Wheels);

Human h1 = new Human("Sohiab", 'M', 21);

h1.show();

}

}

****

**Lab 7**

**Code**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Lab7Task

{

public class Engine

{

int cc;

int horsepower;

public Engine(int c, int hp)

{

cc = c;

horsepower = hp;

}

public void engine\_details()

{

Console.WriteLine("Engine type: {0} \nhorse power: {1} ", cc, horsepower);

}

}

public class Wheel : Engine

{

int numbers;

string type;

public Wheel(int no, string t, int c, int h1)

: base(c, h1)

{

numbers = no;

type = t;

}

public void wheels\_details()

{

Console.WriteLine("Number of wheels: {0} \nWheel type is : {1}", numbers, type);

}

}

public class Car : Wheel

{

int modelno;

public Car(int model, int no, string ty, int c, int h)

: base(no, ty, c, h)

{

modelno = model;

}

public void car\_details()

{

Console.WriteLine("The model of car is: " + modelno);

engine\_details();

wheels\_details();

}

}

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*//

public class HRManager

{

public string Name { get; private set; }

public HRManager(string name)

{

this.Name = name;

}

public void HireEmployee(Contract contract)

{

Console.WriteLine("Employee with contract type {0} has been hired on {1}.", contract.ContractType, contract.StartDate.ToShortDateString());

}

public void TerminateEmployee(Contract contract)

{

Console.WriteLine("Employee with contract type {0} has been terminated.", contract.ContractType);

}

}

public class Contract

{

public DateTime StartDate;

public string ContractType;

public Contract(DateTime startDate, string contractType)

{

this.StartDate = startDate;

this.ContractType = contractType;

}

}

class Program

{

static void Main(string[] args)

{

Car car1 = new Car(2023, 8, "Heavy", 8000, 5500);

car1.car\_details();

HRManager hrManager = new HRManager("Sohaib Anjum");

Console.WriteLine("\*\*\*\*\*\*\*\*\*\*PART B\*\*\*\*\*\*\*");

Contract contract = new Contract(DateTime.Today, "half-Time");

hrManager.HireEmployee(contract);

Console.WriteLine("Employee start date: {0}", contract.StartDate);

Console.WriteLine("Employee contract type: {0}", contract.ContractType);

hrManager.TerminateEmployee(contract);

Console.WriteLine("Employee has been terminated.");

Console.WriteLine("\*\*\*\*\*\*\*\*\*\*\*PART c\*\*\*\*\*\*\*\*");

Human human = new Human();

human.Walk();

LeftHand leftHand = new LeftHand();

leftHand.Move();

RightLeg rightLeg = new RightLeg();

rightLeg.Move();

}

}

public class Human

{

private Hand hand;

private Leg leg;

public Human()

{

hand = new Hand();

leg = new Leg();

}

public void Walk()

{

leg.Move();

}

}

public class Hand

{

public virtual void Move()

{

Console.WriteLine("The hand moving");

}

}

public class LeftHand : Hand

{

public override void Move()

{

Console.WriteLine("The left hand is moving up");

}

}

public class RightHand : Hand

{

public override void Move()

{

Console.WriteLine("The right hand is moving.");

}

}

public class Leg

{

public virtual void Move()

{

Console.WriteLine("The leg is moving.");

}

}

public class LeftLeg : Leg

{

public override void Move()

{

Console.WriteLine("The left leg is moving");

}

}

public class RightLeg : Leg

{

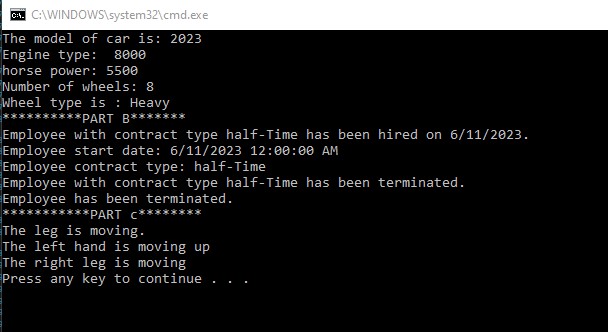
public override void Move()

{

Console.WriteLine("The right leg is moving");

}

}

}

**Lab 8**

**Code**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Lab8

{

class Product

{

static int Product\_id;

static double Price;

public Product()

{

Product\_id =5546;

Price = 1499;

}

public static void Display()

{

Console.WriteLine("Product Id{0}\t{1}",Product\_id,Price);

}

}

public class Claculate

{

public static int n1=2;

public static int n2=10;

public static int tot;

public static void Addition()

{

tot=n1 + n2;

Console.WriteLine( "this is addition "+tot );

}

}

class StaticMethod

{

static void Main(string[] args)

{

Product pro = new Product();

Product.Display();

Claculate cal = new Claculate();

Claculate.Addition();

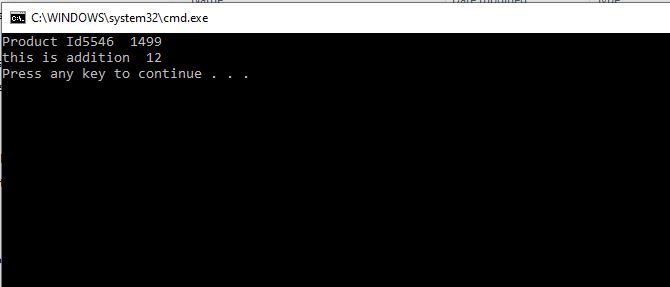
}

}

class Program

{

}

}

**Lab 9**

**Code**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace LAb9

{

class Algorithm

{

const int threeshold = 150;

public string show (int value)

{

if (value < threeshold)

{

Console.WriteLine(value);

return "not working \n";

}

Console.WriteLine(value);

return "working \n";

}

}

class UI:Algorithm

{

Algorithm al = new Algorithm();

public void ul(int value)

{

Console.WriteLine(al.show(value));

}

}

//q2

class father

{

protected int familymem;

}

class Son : father

{

public void familym(int value)

{

familymem = value;

Console.WriteLine("family mem are :"+familymem);

}

}

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Q1");

UI obj1 = new UI();

obj1.ul(200);

UI obj2 = new UI();

obj2.ul(50);

Console.WriteLine("Q2");

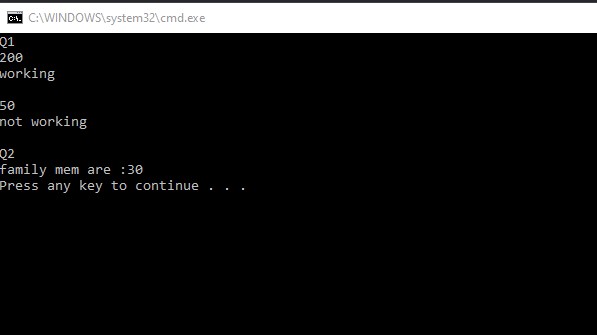
Son obj3 = new Son();

obj3.familym(30);

}

}

}

****

**Lab 10**

**Code**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace \_23\_mayyy\_oop\_aj

{

class FaceBookAcc

{

private const string password = "Sohaib65309";

bool login = false;

public string Password

{

get

{

return password;

}

set

{

if (value == password)

{

login = true;

Console.WriteLine("Login Successfully");

}

else

{

Console.WriteLine("Please Enter Valid Password.");

}

}

}

}

class Program

{

static void Main(string[] args)

{

FaceBookAcc fbAccount = new FaceBookAcc();

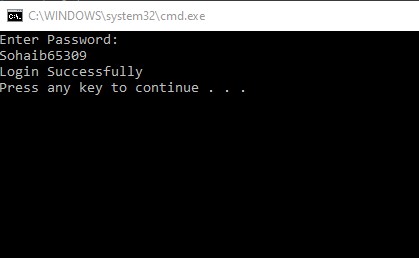
Console.WriteLine("Enter Password: ");

string value = Console.ReadLine();

fbAccount.Password = value;

}

}

}

**Lab 11**

**Code**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Lab\_11

{

class Human

{

public double T\_Distance;

public double t\_distance1;

public Human(double Td, double td)

{

T\_Distance = Td;

t\_distance1 = td;

}

public void WALK(int distance)

{

T\_Distance += distance;

Console.WriteLine(T\_Distance);

}

public void WALK(string distance)

{

T\_Distance += Convert.ToDouble(distance);

Console.WriteLine(T\_Distance);

}

public void WALK(float distance)

{

T\_Distance += Convert.ToDouble(distance);

Console.WriteLine(T\_Distance);

}

public void RUN(int distance)

{

t\_distance1 += distance;

Console.WriteLine(t\_distance1);

}

public void RUN(string distance)

{

t\_distance1 += Convert.ToDouble(distance);

Console.WriteLine(t\_distance1);

}

public void RUN(float distance)

{

t\_distance1 += Convert.ToDouble(distance);

Console.WriteLine(t\_distance1);

}

}

//"============================================"

class Train

{

public string Source, Destination;

public virtual void EngineWork(string Source, string

Destination)

{

this.Source = Source;

this.Destination = Destination;

Console.WriteLine("\tSource of Train: " + Source +

"\tDestination of Train " + Destination);

}

}

class ReverseTrain : Train

{

public override void EngineWork(string Source, string Destination)

{

this.Source = Source;

this.Destination = Destination;

Console.WriteLine("\tSource of Train: " + Source + "\tDestination of Train " + Destination);

}

}

class Train1

{

public string Source, Destination;

public virtual void Enginework1(string Source, string Destination)

{

this.Source = Source; this.Destination = Destination;

Console.WriteLine("\tSource of Train: " + Source +

"\tDestination of Train " + Destination);

}

}

class ReverseTrain1 : Train1

{

public void Enginework1(string Source, string Destination, string JourneyTime)

{

this.Source = Source; this.Destination = Destination;

Console.WriteLine("\tSource of Train: " + Source + "\tDestination of Train " + Destination + "\t Journey time is: " + JourneyTime);

}

}

class Program

{

static void Main(string[] args)

{

Human wnr = new Human(0, 0);

Console.WriteLine("================== ");

Console.WriteLine("\tWalking");

Console.WriteLine("Enter walk 1");

int w1 = int.Parse(Console.ReadLine());

Console.WriteLine("Enter walk 2");

float w2 = int.Parse(Console.ReadLine());

Console.WriteLine("Enter walk 3");

string w3 = Console.ReadLine();

wnr.WALK(w1);

wnr.WALK(w2);

wnr.WALK(w2);

Console.WriteLine("\tRuning");

Console.WriteLine("Enter run1");

string r1 = Console.ReadLine();

Console.WriteLine("Enter run1");

float r2 =int.Parse( Console.ReadLine());

Console.WriteLine("Enter run1");

int r3 =int.Parse( Console.ReadLine());

Console.WriteLine("==================\n");

wnr.RUN(r1);

wnr.RUN(r2);

wnr.RUN(r3);

Console.WriteLine("=======QUESTION 2===========");

Train train1 = new Train();

ReverseTrain reverse2 = new ReverseTrain();

Console.WriteLine("Enter source 1 train");

string s1t = Console.ReadLine();

Console.WriteLine("Enter destination 1 train");

string d1t = Console.ReadLine();

train1.EngineWork(s1t, d1t);

Console.WriteLine("Enter source 1 engine");

string s1e = Console.ReadLine();

Console.WriteLine("Enter destination 1 engine");

string d1e = Console.ReadLine();

train1.EngineWork(s1t, d1t);

reverse2.EngineWork(s1e, d1e);

Console.WriteLine("===================================================================== ");

Console.WriteLine("=======QUESTION 3============");

Train1 Train2 = new Train1();

ReverseTrain1 Reverse2 = new ReverseTrain1();

Console.WriteLine("Enter source 1 train");

string s2t = Console.ReadLine();

Console.WriteLine("Enter destination 1 train");

string s2d = Console.ReadLine();

Train2.Enginework1(s2t, s2d);

Console.WriteLine("3 input over load");

Console.WriteLine("Enter source 2 train");

string s3t = Console.ReadLine();

Console.WriteLine("Enter destination 2 train");

string s3d = Console.ReadLine();

Console.WriteLine("Enter time in ");

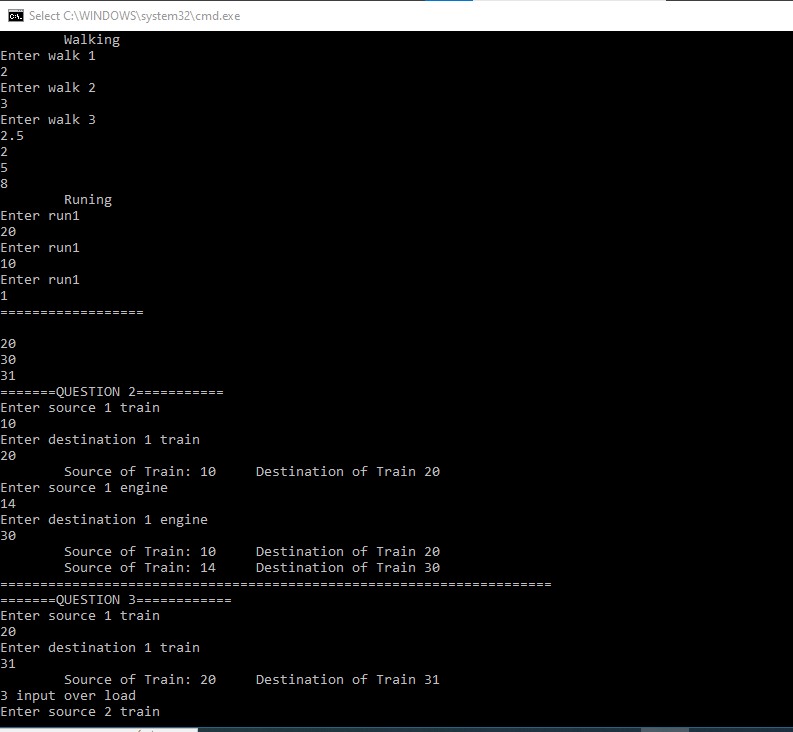
string s3ti = Console.ReadLine();

Reverse2.Enginework1(s3t, s3d, s3ti);

}

}

}

****

**Lab 12\_13**

**Code**

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Lab\_12\_13

{

public abstract class Book

{

public abstract void books(string Bname, string author,double Price, int qty= 0);

}

class bookDetail : Book

{

public override void books(string Bname, string author, double Price, int qty)

{

Console.WriteLine("Book Name: "+Bname+"Book Author: "+author+"Price: "+Price+"Qty: "+qty);

}

}

public abstract class travel

{

public abstract void ModeOfTravel();

public void refuil()

{

Console.WriteLine("REfuil completed");

}

}

class Boat : travel

{

public override void ModeOfTravel()

{

Console.WriteLine("Mode of travel of boad (sea,lakes)");

}

}

class Car : travel

{

public override void ModeOfTravel()

{

Console.WriteLine("Mode of travel roads( streats )");

}

}

class airplane: travel

{

public override void ModeOfTravel()

{

Console.WriteLine("Mode of travel (Air)");

}

}

class Program

{

static void Main(string[] args)

{

Console.WriteLine("Question 1");

bookDetail b1 = new bookDetail();

b1.books("habits", "hoby", 500, 20);

Console.WriteLine("Question 2");

Car c = new Car();

c.ModeOfTravel();

c.refuil();

airplane a = new airplane();

a.ModeOfTravel();

a.refuil();

Boat b = new Boat();

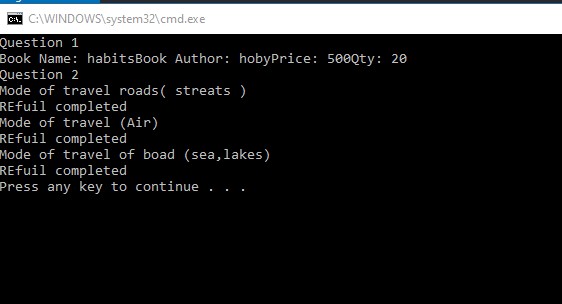
b.ModeOfTravel();

b.refuil();

}

}

}

****