

**Enterprise Application Development (EAD)**

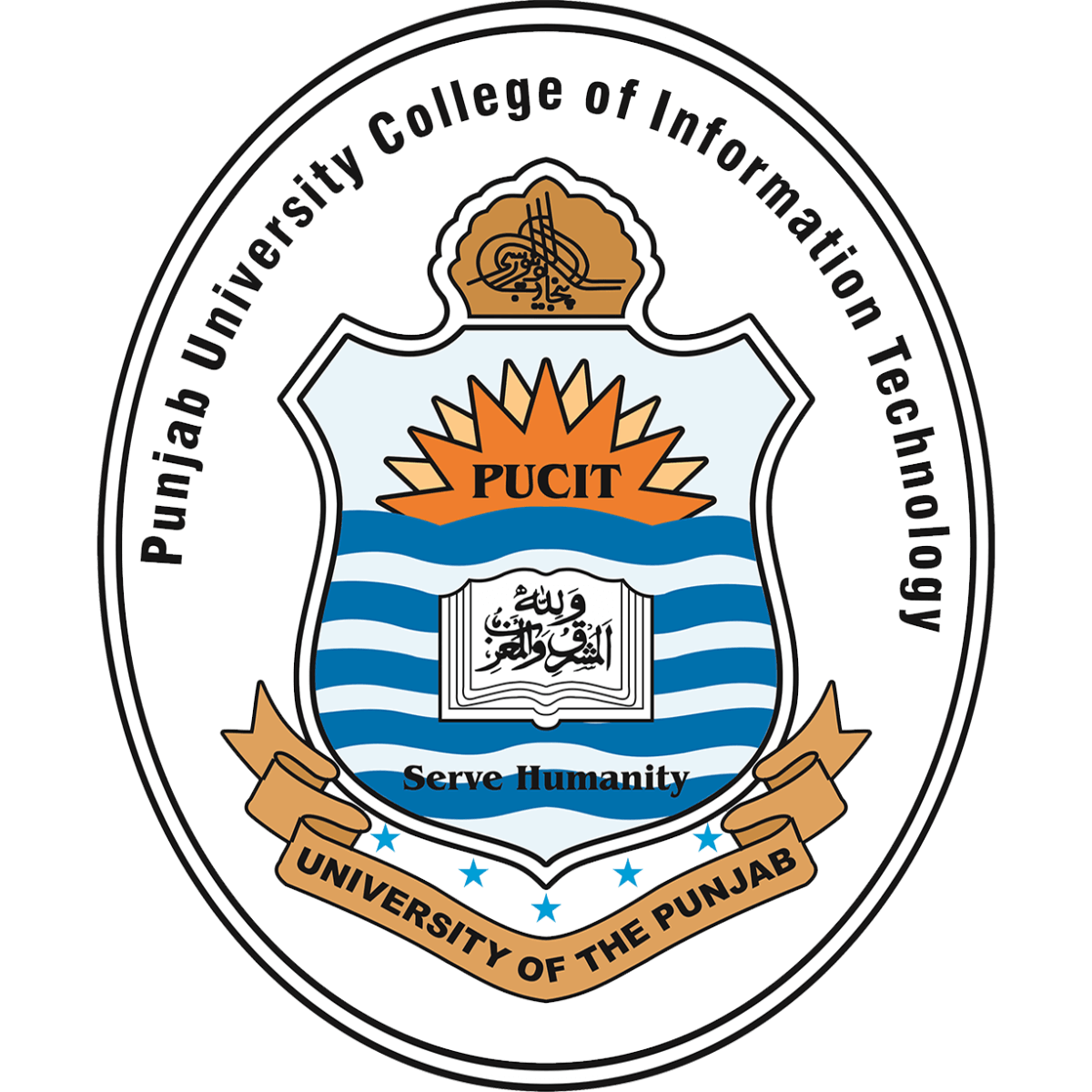
Home work #1



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18-10-2020



**Task#1:**

using System;

namespace EAD\_ASNMT\_1

{

    class Program

    {

        static void Main ( string[] args )

        {

            int temperature;

            while (true)

            {

                try

                {

                    Console.Write ("Enter temperature in celsius: ");

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

                    break;

                }

                catch (FormatException e)

                {

                    Console.WriteLine (e.GetType () + " says " + e.Message);

                }

            }

            switch (true)

            {

                case true when temperature < 0:

                    Console.WriteLine ("Freezing weather");

                    break;

                case true when temperature < 10:

                    Console.WriteLine ("Very Cold weather");

                    break;

                case true when temperature < 20:

                    Console.WriteLine ("Cold weather");

                    break;

                case true when temperature < 30:

                    Console.WriteLine ("Normal in Temp");

                    break;

                case true when temperature < 40:

                    Console.WriteLine ("Its Hot");

                    break;

                case true when temperature >= 40:

                    Console.WriteLine ("Its Very Hot");

                    break;

            }

        }

    }

}

**Task#2:**

using System;

namespace EAD\_ASNMT\_1

{

    class task2

    {

        static void Main ( String[] args )

        {

            int num1, num2;

            char operat = '\*';

            while (true)

            {

                try

                {

                    Console.Write ("Enter first number: ");

                    num1 = Convert.ToInt32 (Console.ReadLine ());

                    break;

                }

                catch (FormatException e)

                {

                    Console.WriteLine (e.GetType () + " says " + e.Message);

                    Console.WriteLine ("Please enter a valid Number");

                }

            }

            while (true)

            {

                try

                {

                    Console.Write ("Enter second number : ");

                    num2 = Convert.ToInt32 (Console.ReadLine ());

                    break;

                }

                catch (FormatException e)

                {

                    Console.WriteLine (e.GetType () + " says " + e.Message);

                    Console.WriteLine ("Please enter a valid Number");

                }

            }

            while (true)

            {

                try

                {

                    Console.Write ("Enter operator (+,-,/,\*,%): ");

                    operat = Convert.ToChar (Console.ReadLine ());

                }

                catch (FormatException e)

                {

                    Console.WriteLine (e.GetType () + " says " + e.Message);

                    Console.WriteLine ("Please enter a valid operator: ");

                    continue;

                }

                switch (operat)

                {

                    case '+':

                        Console.WriteLine ($"The sum of {num1} and {num2} is {num1 + num2}");

                        break;

                    case '-':

                        Console.WriteLine ($"The difference of {num1} and {num2} is {num1 - num2}");

                        break;

                    case '\*':

                        Console.WriteLine ($"The multiplication of {num1} and {num2} is {num1 \* num2}");

                        break;

                    case '%':

                        Console.WriteLine ($"The mod of {num1} and {num2} is {num1 % num2}");

                        break;

                    case '/':

                        try

                        {

                            Console.WriteLine ($"The division of {num1} and {num2} is {num1 / num2}");

                        }

                        catch (DivideByZeroException e)

                        {

                            Console.WriteLine (e.GetType () + " " + e.Message);

                        }

                        break;

                }

                break;

            }

        }

    }

}

**Task#3:**

using System;

namespace EAD\_ASNMT\_1

{

    class task3

    {

        static void Main ( String[] argvs )

        {

            float num;

            while (true)

            {

                try

                {

                    Console.Write ("Enter a floating point Number: ");

                    num = float.Parse (Console.ReadLine ());

                    break;

                }

                catch (Exception e)

                {

                    Console.WriteLine (e.GetType () + " says " + e.Message);

                    Console.WriteLine ("Enter a valid floating point number floating point Number: ");

                }

            }

            int choice;

            Console.WriteLine ("How you want to round the number?");

            while (true)

            {

                Console.WriteLine ("1. Traditional method");

                Console.WriteLine ("2. Banker's algorithm");

                Console.Write ("Your choice: ");

                try

                {

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

                    break;

                }

                catch (Exception e)

                {

                    Console.WriteLine (e.GetType () + " says " + e.Message);

                    Console.WriteLine ("Please select option 1 or 2.");

                }

            }

            switch (choice)

            {

                case 2:

                    Console.WriteLine ("Using banker Algorithm...");

                    Console.WriteLine ("The rounded value is: " + System.Convert.ToInt32 (num));

                    break;

                case 1:

                    Console.WriteLine ("Old method of rounding....");

                    Console.WriteLine ("The rounded value is: " + Math.Round (value: num, digits: 0, MidpointRounding.AwayFromZero));

                    break;

            }

        }

    }

}

**Task#4:**

using System;

namespace EAD\_ASNMT\_1

{

    class task4

    {

        static void Main ( String[] args )

        {

            int x = 10;

            int y = 20;

            Console.WriteLine ($"Before swap x = {x}, y = {y}");

            swap (ref x, ref y);

            Console.WriteLine ($"After swap x = {x}, y = {y}");

        }

        public static void swap ( ref int num1, ref int num2 )

        {

            int temp = num1;

            num1 = num2;

            num2 = temp;

        }

    }

}

**Task#5:**

using System;

namespace EAD\_ASNMT\_1

{

    class Objects

    {

        static int objectCount = 0;

        public Objects ( )

        {

            objectCount++;

        }

        public static int getCount ( )

        {

            return objectCount;

        }

    }

    class task5

    {

        static void Main ( String[] args )

        {

            Objects o1 = new Objects ();

            Objects o2 = new Objects ();

            Objects o3 = new Objects ();

            Objects o4 = new Objects ();

            Objects o5 = new Objects ();

            Objects o6 = new Objects ();

            Console.WriteLine ($"Total Objects are: {Objects.getCount ()}");

        }

    }

}

**Task#6:**

using System;

namespace EAD\_ASNMT\_1

{

    class task6

    {

        //suppose each subject has 3 credit hours

        const int CREDIT\_HOURS = 3;

        static void Main ( String[] args )

        {

            double gpa = 0.0;

            int marks = 0;

            int totalSubjects = args.Length;

            for (int i = 0; i < totalSubjects; i++)

            {

                try

                {

                    marks = Convert.ToInt32 (args[i]);

                }

                catch (Exception e)

                {

                    Console.WriteLine (e.GetType () + " says " + e.Message);

                    System.Environment.Exit (1);

                }

                switch (true)

                {

                    case true when marks >= 85:

                        gpa = gpa + CREDIT\_HOURS \* 4.0;

                        break;

                    case true when marks >= 80:

                        gpa = gpa + CREDIT\_HOURS \* 3.7;

                        break;

                    case true when marks >= 75:

                        gpa = gpa + CREDIT\_HOURS \* 3.3;

                        break;

                    case true when marks >= 70:

                        gpa = gpa + CREDIT\_HOURS \* 3.0;

                        break;

                    case true when marks >= 65:

                        gpa = gpa + CREDIT\_HOURS \* 2.7;

                        break;

                    case true when marks >= 60:

                        gpa = gpa + CREDIT\_HOURS \* 2.3;

                        break;

                    case true when marks >= 59:

                        gpa = gpa + CREDIT\_HOURS \* 2.0;

                        break;

                    case true when marks >= 58:

                        gpa = gpa + CREDIT\_HOURS \* 1.7;

                        break;

                    case true when marks >= 55:

                        gpa = gpa + CREDIT\_HOURS \* 1.3;

                        break;

                    case true when marks >= 50:

                        gpa = gpa + CREDIT\_HOURS \* 1.0;

                        break;

                    case true when marks < 50:

                        gpa = gpa + CREDIT\_HOURS \* 0.0;

                        break;

                }

            }

            Console.WriteLine ("Your GPA is : " + gpa / (CREDIT\_HOURS\*totalSubjects));

        }

    }

}