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PPS

ASSIGNMENT

1. . A menu driven program to check the number is(using Loops)

i) Prime or not

ii) Armstrong or not

iii) Strong or not

iv) Perfect, abundant or deficient Number or not

Code:

#include <stdio.h>

void main()

{

int i,n,flag,sum=0,r,temp,fact;

printf("enter 1 for prime\nenter 2 for armstrong\n enter 3 for strong\n enter 4 for perfect\n");

scanf("%d",&i);

printf("enter number\n");

scanf("%d",&n);

switch(i)

{

case 1: for (i = 2; i< n; ++i) {

if (n % i == 0) {

flag = 1;

break;

}

}

if (n == 1) {

printf("1 is neither prime nor composite.");

}

else {

if (flag == 0)

printf("%d is a prime number.", n);

else

printf("%d is not a prime number.", n);

break;

}

case 2:temp=n;

while(n>0)

{

r=n%10;

sum=sum+(r\*r\*r);

n=n/10;

}

if(temp==sum)

printf("armstrong number ");

else

printf("not armstrong number");

break;

case 3:temp=n;

while(n>0)

{

i=1,fact=1,sum=0;

r=n%10;

while(i<=r)

{

fact=fact\*i;

i++;

}

sum=sum+fact;

n=n/10;

}

if(sum==temp)

printf("\nThe number %d is a strong number",temp)

else

printf("\nThe number %d is not a strong number",temp);

break;

case 4:i=1;

while(i<n){

if(n%i==0)

sum=sum+i;

i++;

}

if(sum==n)

printf("%d is a perfect number",sum);

else if(sum<n)

printf("%d is a deficient number",sum);

else

printf("%d is a abundentnumber",sum);

}

}

Out put:

enter 1 for prime

enter 2 for armstrong

enter 3 for strong

enter 4 for perfect

1

enter number

5

5 is a prime number.

enter 1 for prime

enter 2 for armstrong

enter 3 for strong

enter 4 for perfect

2

enter number

153

armstrong number

enter 1 for prime

enter 2 for armstrong

enter 3 for strong

enter 4 for perfect

4

enter number

6

6 is a perfect number

enter 1 for prime

enter 2 for armstrong

enter 3 for strong

enter 4 for perfect

3

enter number

145

The number 145 is a strong number

UNIT-1

a)Write a program to finding the largest of three given numbers.

Code:

#include<stdio.h>

void main()

{

    int a,b,c,big;

    printf("\n Enter a,b&c values");

    scanf("%d%d%d",&a,&b,&c);

    big=(a>b&&a>c)?a:(b>c)?b:c;

    printf("\n largest number is %d",big);

}

Out put:

 Enter a,b&c values100

330  000

150

 largest number is 3000

 Enter a,b&c values100

b)Write a program to covert a lowercase character to its uppercase.

code:

#include<stdio.h>

void main()

{

    char ch;

    printf("\n Enter a character");

    scanf("%d",&ch);

    if(ch>='a'&&ch<='z')

    {

        printf("\n %c is in lower case",ch);

    }

    else if(ch>='A'&&ch<='Z')

    {

        printf("\n %c is in upper case",ch);

    }

    else

    {

        printf("\n %c is a special charaacter",ch);

    }

}

Out put:

 Enter a character97

 a is in lower case

Ente

r a character97

C)Write a program to find out roots of a Quadratic equation.

Code:

#include<stdio.h>

#include<math.h>

void main()

{

    float a,b,c,d,x,x1,x2;

    printf("\n Enter a,b,c");

    scanf("%f%f%f",&a,&b,&c);

    d=b\*b-4.0\*a\*c;

    if(d<0.0)

    {

printf("\n roots are imaginary");

}

else if(d==0.0)

{

    x=-b/(2.0\*a);

    printf("\n roots are real and equal");

    printf("\n x=%f",x);

}

else

{

    x1=(-b+sqrt(d))/(2.0\*a);

    x2=(-b-sqrt(d))/(2.0\*a);

    printf("\n roots are real and distinct");

    printf("\n x1=%f",x1);

    printf("\n x2=%f",x2);

}

}

Out put:

 Enter a,b,c5

4

4

 roots are imaginary

d)Write a program to find the type of triangle formed by the given sides.

Code:

#include <stdio.h>

int main()

{

    int side1, side2, side3;

    /\* Input sides of a triangle \*/

    printf("Enter three sides of triangle: ");

    scanf("%d%d%d", &side1, &side2, &side3);

    if(side1==side2 && side2==side3)

    {

        /\* If all sides are equal \*/

        printf("Equilateral triangle.");

    }

    else if(side1==side2 || side1==side3 || side2==side3)

    {

        /\* If any two sides are equal \*/

        printf("Isosceles triangle.");

    }

    else

    {

        /\* If none sides are equal \*/

        printf("Scalene triangle.");

    }

    return 0;

}

Out put:

             Enter three sides of triangle:30

              30

              30

              Equilateral triangle.

e) write a program that will read a number from keyboardand print the following in one line.

Smallest integer the given largest number not

Not less than number greater than the

Number number

Code:

#include <stdio.h>

void main()

{

int a;

printf("enter a value\n");

scanf("%d",&a);

if(a==1)

printf("smallest integer the given largest number not not less than number greater than the number number");

else

printf("you have entered wrong choice");

}

Output:

enter a value

1

smallest integer the given largest number not not less than number greater than the number number

f)Write a C-code to find the maximum number among three numbers using conditional operator.

Code:

eennteEenenentethree sides of triangle: 30

3

30#include<stdio.h>

    void main()

{

    int a,b,c,max;

    printf("\n Enter a,b&c values");

    scanf("%d%d%d",&a,&b,&c);

    max=(a>b&&a>c)?a:(b>c)?b:c;

    printf("\n maximum number is %d",max);

}

 Enter a,b&c values45

34

12

 maximum number is 45  g)

g)Write a program that reads a character from the keyboard and prints the following

i) Is the character alphabetic?

Code:

#include <stdio.h>

int main()

{

    char c;

    printf("Enter a character: ");

    scanf("%c", &c);

    if ((c >= 'a' && c <= 'z') || (c >= 'A' && c <= 'Z'))

        printf("%c is an alphabet.", c);

    else

        printf("%c is not an alphabet.", c);

    return 0;

}

Out put:

Enter a character: f

f is an alphabet.

ii) Is the character numeric?

Code:

#include <stdio.h>

int main()

{

    char ch;

    /\* Input character from user \*/

    printf("Enter any character: ");

    scanf("%c", &ch);

    /\* Alphabet check \*/

    if((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z'))

    {

        printf("'%c' is alphabet.", ch);

    }

    else if(ch >= '0' && ch <= '9')

    {

        printf("'%c' is digit.", ch);

    }

    else

    {

        printf("'%c' is special character.", ch);

    }

Out put:

             Enter any character:5

              ‘5’ is a digit.

iii) If alphabetic, is the character uppercase?

Code:

#include<stdio.h>

int main()

 {

   char ch;

   printf("\nEnter The Character : ");

   scanf("%c", &ch);

   if (ch >= 'A' && ch <= 'Z')

      printf("Character is Upper Case Letters");

   else

      printf("Character is Not Upper Case Letters");

   return (0);

}

Out put:

Enter The Character : H

Character is Upper Case Letters

iv) If alphabetic, is the character lowercase?

Code:

    #include<stdio.h>

    int main()

    {

      char ch;

       printf("\nEnter The Character : ");

       scanf("%c", &ch);

       if (ch >= 97 && ch <= 122)

      printf("Character is Lowercase Letters");

      else

      printf("Character is Not Lowercase Letters");

      return (0);

}

Out put:

Enter The Character : j

Character is Lowercase Letters

h). In inventory management,the economic order quantity  for single item is given by

EOQ= 2\*demand rate\*set up costs/holding cost per unit time

TBO=sqrt(2\*set up costs/demand rate\*holding cost per time –unit time)

Write a c program to compute EOQ and TBO, given demand rate, set up costs and the holding costs.

Code:

#include <stdio.h>

#include <conio.h>

#include <math.h>

void main()

{

    float EOQ,dem\_rate,set\_cost,hold\_cost,TBO;

    clrscr();

    printf("\nEnter demand rate:");

    scanf("%f",&dem\_rate);

    printf("\nEnter setup costs:");

    scanf("%f",&set\_cost);

    printf("\nEnter holding cost per item per unit time:");

    scanf("%f",&hold\_cost);

    EOQ=sqrt((2\*dem\_rate\*set\_cost)/(hold\_cost));

    TBO=sqrt((2\*set\_cost)/(dem\_rate\*hold\_cost));

    printf("\nEconomic Order Quantity is:%f",EOQ);

    printf("\n");

    printf("\nTime Between Orders is:%f",TBO);

    getch();

}

 output:

Enter demand rate:50

Enter setup costs:2000

Enter holding cost per item per unit time:1500

Economic Order Quantity is:11.547006

Time Between Orders is:0.230940

i)) Write a program to read the value of x and y and print the result of the following expressions in one line.

  i.)   (x + y) / (x - y)

  ii.)  (x + y) / 2

  iii.) (x + y) (x - y)

i) Code:

   #include<stdio.h>

   #include<conio.h>

   void main()

   {

    int x,y;

    clrscr();

    printf("Enter the value of X:");

    scanf("%d",&x);

    printf("Enter the value of Y:");

    scanf("%d",&y);

    printf("%f\t",(float)(x+y)/(x-y));

    getch();

   }

Out put:

Enter the value of X:13

Enter the value of Y:12

25.000000

ii)Code:

   #include<stdio.h>

   #include<conio.h>

   void main()

{

    int x,y;

    clrscr();

    printf("Enter the value of X:");

    scanf("%d",&x);

    printf("Enter the value of Y:");

    scanf("%d",&y);

    printf("%f\t",(float)(x+y)/2);

    getch();

}

Out put:

            Enter the value of X:13

            Enter the value  of Y:12

            12.500000

iii)Code:

   #include<stdio.h>

   #include<conio.h>

    void main()

{

    int x,y;

    clrscr();

    printf("Enter the value of X:");

    scanf("%d",&x);

    printf("Enter the value of Y:");

    scanf("%d",&y);

    printf("%f\t",(float)(x+y)\*(x-y));

    getch();

}

Out put:

Enter the value of X:13

Enter the value of Y:12

25.000000

j)The total distance traveled by a vehicle in t seconds is given by distance = ut + ½ at2 where u is the initial velocity ( meters per second), a is the acceleration ( meters per second2). Write a program to evaluate the distance traveled at regular intervals of time, given the values of u and a. The program should provide the flexibility to the user to select his own time interval and repeat the calculations for different values of u and a.

Code:

#include<stdio.h>

#include<conio.h>

#include<math.h>

void main()

{

   int i, n, sec;

   float d, u, a;

   clrscr();

   printf("Enter the no. of intervals\n");

   scanf("%d", &n);

   for(i = 1; i <= n; i++)

   {

      printf("interval: %d \n", i);

      printf("Enter the time in seconds \n");

      scanf("%d",&sec);

      printf("Enter the velocity \n");

      scanf("%f", &u);

      printf("Enter the acceleration \n");

      scanf("%f", &a);

      d= d + (u \* sec + (a \* (pow(sec, 2))) / 2);

   }

   printf("Total distance travelled is  %.2f", d);

   getch();

}

Out put:

                     Enter the number of intervals: 2

                     Interval: 1

                     Enter the time in seconds

                      30

                     Enter the velocity

                      35

                     Enter the acceleration

                    20

                    Interval: 2

                   Enter the time in seconds

                   40

                    Enter the velocity

                    45

                    Enter the acceleration

                     30

                   Total distance travelled is 35850.00

K)Write a program to find the simple interest of given amount, time and rate of interest. (NOTE: I=PTR/100, total=A+I)

Code:

#include <stdio.h>

int main()

{

    float principle, time, rate, SI;

    /\* Input principle, rate and time \*/

    printf("Enter principle (amount): ");

    scanf("%f", &principle);

    printf("Enter time: ");

    scanf("%f", &time);

    printf("Enter rate: ");

    scanf("%f", &rate);

    /\* Calculate simple interest \*/

    SI = (principle \* time \* rate) / 100;

    /\* Print the resultant value of SI \*/

    printf("Simple Interest = %f", SI);

    return 0;

}

Out put:

                      Enter principle(amount):1200

                      Enter time:2

                      Enter rate: 5.4

                      Simple interest=129.600006

UNIT -2

a)Write a C program to check whether the given number is perfect or not.

Code:

#include<stdio.h>

void main()

{

    int i=1,n,sum=0;

    printf("\n Enter n value");

    scanf("%d",&n);

    while(i<n)

    {

        if(n%i==0)

        sum=sum+i;

        i++;

    }

    if(sum==n)

    printf("\n %d is a perfect number",n);

    else

    printf("\n %d is not a perfect number",n);

}

Out put:

Enter n value6

 6 is a perfect number

b)      Write a C program to print prime numbers up to 200

#include<stdio.h>

void main()

{

    int n,count=0,i=1;

    while(i<=200)

    {

        int j=1,count=0;

        while(j<=i)

    {

        if(i%j==0)

        count++;

        j++;

    }

    if(count==2)

    {

    printf("\n %d is prime number",i);

    }

    i++;

    }

}

Output:

 2 is prime number

 3 is prime number

 5 is prime number

 7 is prime number

 11 is prime number

 13 is prime number

 17 is prime number

 19 is prime number

 23 is prime number

 29 is prime number

 31 is prime number

 37 is prime number

 41 is prime number

 43 is prime number

 47 is prime number

 53 is prime number

 59 is prime number

 61 is prime number

 67 is prime number

 71 is prime number

 73 is prime number

 79 is prime number

 83 is prime number

 89 is prime number

 97 is prime number

 101 is prime number

 103 is prime number

 107 is prime number

 109 is prime number

 113 is prime number

 127 is prime number

 131 is prime number

 137 is prime number

 139 is prime number

 149 is prime number

 151 is prime number

 157 is prime number

 163 is prime number

 167 is prime number

 173 is prime number

 179 is prime number

 181 is prime number

 191 is prime number

 193 is prime number

 197 is prime number

 199 is prime number

c)      Write a program to find all prime numbers with in a given set of input numbers.

Code:

#include <stdio.h>

int main()

 {

   int low, high, i, flag;

   printf("Enter two numbers(intervals): ");

   scanf("%d %d", &low, &high);

   printf("Prime numbers between %d and %d are: ", low, high);

   // iteration until low is not equal to high

   while (low < high) {

      flag = 0;

      // ignore numbers less than 2

      if (low <= 1) {

         ++low;

         continue;

      }

      // if low is a non-prime number, flag will be 1

      for (i = 2; i <= low / 2; ++i) {

         if (low % i == 0) {

            flag = 1;

            break;

         }

      }

      if (flag == 0)

         printf("%d ", low);

      // to check prime for the next number

      // increase low by 1

      ++low;

   }

   return 0;

}

Out put:

Enter two numbers(intervals): 40

90

Prime numbers between 40 and 90 are: 41 43 47 53 59 61 67 71 73 79 83 89

d)    Write a program to find all prime factors of a given number.

Code:

#include <stdio.h>

void main()

{

    int i, j, num, isPrime;

    /\* Input a number from user \*/

    printf("Enter any number to print Prime factors: ");

    scanf("%d", &num);

    printf("All Prime Factors of %d are: \n", num);

    /\* Find all Prime factors \*/

    for(i=2; i<=num; i++)

    {

        /\* Check 'i' for factor of num \*/

        if(num%i==0)

        {

            /\* Check 'i' for Prime \*/

            isPrime = 1;

            for(j=2; j<=i/2; j++)

            {

                if(i%j==0)

                {

                    isPrime = 0;

                    break;

                }

            }

            /\* If 'i' is Prime number and factor of num \*/

            if(isPrime==1)

            {

                printf("%d, ", i);

            }

        }

    }

}

Out put:

Enter any number to print Prime factors: 15

All Prime Factors of 15 are:

3, 5

e) Write a program to find the sum of the digits of a given number.

Code:

#include<stdio.h>

void main()

{

    int n, remainder, sum = 0;

    printf("Enter a number: ");

    scanf("%d", &n);

    while(n != 0)

    {

        remainder = n % 10;

        sum += remainder;

        n = n / 10;

    }

    printf("sum = %d", sum);

}

Out put:

Enter a number: 4598

sum = 26

f)Write a program to find whether a given number is prime

Code:

#include<stdio.h>

void main()

{

    int n,c=0,i=2;

    printf("\n Enter n value");

    scanf("%d",&n);

    while(i<=n-1)

    {

        if(n%i==0)

        c++;

        i++;

    }

    if(c==0)

    {

    printf( "\n %d is a prime number",n);

    }

    else

    {

        printf( "\n %d is a not prime number",n);

    }

}

Out put:

 Enter n value7

 7 is a prime number

g)      Write a program to count the no.of characters in a given word.

Code:

#include <stdio.h>

#include <string.h>

int main()

{

    char str[100];

    int i,totChar;

    totChar=0;

    printf("Please enter the string for count characters\n");

    gets(str);//store the string

   //count characters of a string wit out space

     i=0;

     while(str[i] != '\0'){

   if(str[i]!=' ')// this condition is used to avoid counting space

        {

            totChar++;

        }

         i++;

    }

    printf("The total characters of the given string= %d",totChar);

    getch();

    return 0;

}

Out put:

                        Please enter the string for count characters

                        c programming language

                        The total characters of the given string= 20

h)Write a program to the Fibonacci numbers between 100 and 999.

Code:

#include<stdio.h>

void main()

{

int t1=55,t2=89,i,k;

printf("the fibonacci series from 100 to 999 is\n");

for(i=1;i<6;i++)

{

k=t1+t2;

printf("%d\t",k);

t1=t2;

t2=k;

}

}

Out put:

the fibonacci series from 100 to 999 is

144    233 377 610 987

i)  Write a program to count the no.of characters, no.of lines, no. of words, no. of     spaces in given text .

Code:

#include <stdio.h>

int main()

{

    char in\_name[80];

    FILE \*in\_file;

    int ch, character = 0, line = 0, space = 0, tab = 0;

    printf("Enter file name:\n");

    scanf("%s", in\_name);

    in\_file = fopen(in\_name, "r");

    if (in\_file == NULL)

        printf("Can't open %s for reading.\n", in\_name);

    else

    {

        while ((ch = fgetc(in\_file)) != EOF)

        {

            character++;

            if (ch == ' ')

                space++;

            if (ch == '\n')

                line++;

            if (ch == '\t')

                tab++;

        }

        fclose(in\_file);

        printf("\nNumber of characters = %d", character);

        printf("\nNumber of spaces = %d", space);

        printf("\nNumber of tabs = %d", tab);

        printf("\nNumber of lines = %d", line);

    }

    return 0;

}

Out put:

Enter file name:

count.txt

Number of characters = 82

Number of spaces = 12

Number of tabs = 1

Number of lines = 8

j)  Write a program to find the summation of the serie S=1+x+x2+x3+x4+……using while-loop?

Code:

#include<stdio.h>

int main()

{

    int x,n,t;

    long sum=1;

    printf("Enter the value of 'x': ");

    scanf("%d",&x);

    printf("\nEnter the value of 'n': ");

    scanf("%d",&n);

    t=x;

    while(n>0)

    {

        sum=sum+t;

        t=t\*x;

        n--;

    }

    printf("Sum of the series=%ld",sum);

}

Out put:

                Enter the value of ‘x’:5

                Enter the value of ‘n’:8

                Sum of the series=488281

k)Write a C program to print Fibonacci Series using do-while loop.

Code:

#include<stdio.h>

void main()

{

    int i=1,n,f,f1,f2;

    printf("Enter Number of Fibonacci Values Needed : ");

    scanf("%d",&n);

    f=0;

    f1=1;

    f2=1;

    do

    {

        i++;

        printf("%d\n",f);

        f1=f2;

        f2=f;

        f=f1+f2;

    }

    while(i<=n);

}

Out put:

Enter Number of Fibonacci Values Needed : 10

0

1

1

2

3

5

8

13

21

34

l)Write a program that will read a positive integer and determine and print its binary equivalent.

Code:

#include<stdio.h>

#include<math.h>

void main()

{

    int d,r,i=0,b=0;

printf("enter d value\n");

scanf("%d",&d);

    while(d>0)

    {

        r=d%2;

        b=b+(r\*pow(10,i));

        d=d/2;

i++;

    }

printf("b=%d",b);

}

Out put:

enter d value

6

b=110

m)Write a program to reverse a given number of 5 digits.

Code:

#include<stdio.h>

int main()

{

int num,d1,d2,d3,d4,d5,renum,sum;

printf("Enter a five digit number:");

scanf("%d",&num);

d1=num/10000;

d2=(num%10000)/1000;

d3=(num%1000)/100;

d4=(num%100)/10;

d5=num%10;

renum=d5\*10000+d4\*1000+d3\*100+d2\*10+d1;

sum=d1+d2+d3+d4+d5;

printf("Reverse number:%d\n",renum);

printf("Sum:%d",sum);

getch();

}

Out put:

Enter a five digit number:56436

Reverse number:63465

Sum:24

n) Write a complete C program to compute and print the first m Fibonacci numbers, where m is the input to the program.

Code:

#include<stdio.h>

int main()

{

int first=0, second=1, i, n, sum=0;

printf("Enter the number of terms: ");

scanf("%d",&n);

//accepting the terms

printf("Fibonacci Series:");

for(i=0 ; i<n ; i++)

{

if(i <= 1)

{

sum=i;

}

//to print 0 and 1

else

{

sum=first + second;

first=second;

second=sum;

//to calculate the remaining terms.

//value of first and second changes as new term is printed.

}

printf(" %d",sum)

}

return 0;

}

Out put:

                  Enter the number of terms:5

                  Fibonacci series:0

                                              1

                                              1

                                              2

                                              3

o)Write a program to determine whether a number is odd or even and print the message “Number is odd” or “Number is even” (i) without using else option and (ii) using else option

i)Without using else option

Code:

#include<stdio.h>

void main()

{

    int n=10;

    printf("\n Read 'n' value");

    scanf("%d",&n);

    (n%2==0)?printf(“%d is even",n):printf("%d is odd",n);

}

Out put:

 Read 'n' value4

   4 is even.

ii)Using else option

Code:

#include<stdio.h>

void main()

{

    int n;

    printf("\n Read 'n' value");

    scanf("%d",&n);

    if(n%2==0)

    {

        printf("%d is even",n);

    }

    else

    {

        printf(" %dis odd",n);

    }

}

Out put:

              Read 'n' value8

               8 is even

P)Write a program that reads in an integer value for n and then sums the integers from n to 2\*n if n is non-negative or from 2\*n to n if n is negative. Write the code in two versions one using only for loop and the other using only while loop.

i)By using For loop.

Code:

#include<stdio.h>

void main()

{

    int n,i,sum=0;

printf("enter n value\n");

scanf("%d",&n);

    if(n>0)

    {

        for(i=n;i<=2\*n;i++)

        {

            sum=sum+i;

        }

    }

    else

    {

        for(i=2\*n;i<=n;i++)

        sum=sum+i;

    }

printf("sum=%d",sum);

}

Out put:

Enter n value

2

Sum =9

ii)By using while loop.

Code:

#include<stdio.h>

void main()

{

    int n,i,sum=0;

printf("enter n value\n");

scanf("%d",&n);

    if(n>0)

    {

i=n;

        while(i<=2\*n)

        {

            sum=sum+i;

i++;

        }

    }

    if(n<0)

    {

i=2\*n;

        while(i<=n)

        {

        sum=sum+i;

i++;

        }

    }

printf("sum=%d",sum);

}

Out put:

enter n value

-2

sum=-9

q)) The mathematical operation min(x,y) can be represented by the conditional expression (x<y)? x: y   In similar fashion, using only conditional expression describe the mathematical operations min(x,y,z) and max(x,y,z,w).

Code:

#include<stdio.h>

void main()

{

    int x,y,z,w,min,max;

printf("enter x,y,z,w\n");

scanf("%d%d%d%d",&x,&y,&z,&w);

min=(x<y&&x<z)?x:(y<z)?y:z;

max=(x>y&&x>z&&x>w)?x:(y>z&&y>w)?y:(z>w)?z:w;

printf("min=%d",min);

printf("max=%d",max);

}

Out put:

enter x,y,z,w

10

20

30

40

min=10max=40

r)Write a program that computes the gcd of two positive integers

Code:

#include <stdio.h>

int main()

{

    int n1, n2, i, gcd;

    printf("Enter two integers: ");

    scanf("%d %d", &n1, &n2);

    for(i=1; i <= n1 && i <= n2; ++i)

    {

        // Checks if i is factor of both integers

        if(n1%i==0 && n2%i==0)

            gcd = i;

    }

    printf("G.C.D of %d and %d is %d", n1, n2, gcd);

    return 0;

}

Out put:

Enter two integers: 4

6

G.C.D of 4 and 6 is 2

s)Write a program to find the factorial of a given number.

 Code:

#include <stdio.h>

int main()

{

    int fact=1,i=1,n;

    printf("\n Enter n value");

    scanf("%d",&n);

    while(i<=n)

    {

        fact=fact\*i;

        i++;

    }

    printf("\n The factorial of %d is %d",n,fact);

}

Out put:

                  Enter n value5

                  The factorial of 5 is 120

t) Write a program to read a line of text and write it out backwards

Code:

#include <stdio.h>

int main()

{

  char str[1000], rev[1000];

  int i, j, count = 0;

printf("enter string\n");

scanf("%s", str);

printf("\nString Before Reverse: %s", str);

  while (str[count] != '\0')

  {

    count++;

  }

  j = count -1;

  for (i = 0; i< count; i++)

  {

    rev[i] = str[j];

    j--;

  }

printf("\nString After Reverse: %s", rev);

}

Out put:

enter string

rvrjcce

String Before Reverse: rvrjcce

String After Reverse: eccjrvr

u)Write a C program for counting the number of characters, words and lines in a given text

code:

#include<stdio.h>

#include<conio.h>

void main()

{

char str[200];

int i, line, word, ch;

line=word=ch=0;

clrscr();

printf("Enter a string in multiple lines terminated with ~ :\n");

scanf("%[^~]", str);

//To count lines in text

for(i=0; str[i]!='\0'; i++)

{

if(str[i]=='\n')

{

line++;

word++;

}

else

{

if(str[i]==' '||str[i]=='\t')

{

word++;

ch++;

}

else ch++;

}

}

printf("\nCharacter counts = %d\n",ch);

printf("Word counts = %d\n",word);

printf("Line counts = %d\n",line);

getch();

 }

Out put:

Enter a string in multiple lines terminated with:

This is a c program

Character counts=19

Word counts=4

Line counts=0

v)**Write a program to print mirror image of a number and check whether given    number is palindrome or not.**

**Code:**

#include<stdio.h>

main(void)

{

int num,rev,num1;

printf(“\n Enter any number:”);

scanf(“%d”,&num);

num1=num;

rev=0;

while(num>0)

{

rem=num%10;

rev=rev\*10+rem;

num=num/10;

}

printf(“\n Mirror image=%d”,rev);

if(rev==num1)

printf(“\n%d is a palindrome”,num1);

else

printf(“\n%d is not a palindrome”,num1);

}

Out put:

Enter any number:

12321

Mirror image=12321

12321 is a palindrome

w)Write a program to find whether given number is palindrome or not

Code:

#include<stdio.h>

void main()

{

    int n,m,rev=0,remainder;

    printf("\n Enter n value");

    scanf("%d",&n);

    m=n;

    while(n!=0)

    {

        remainder=n%10;

        rev=rev\*10+remainder;

        n=n/10;

    }

    if(m==rev)

    printf("\n The given no is palindrome");

    else

    printf("\n The given no is not palindrome");

}

Out put:

 Enter n value121

 The given no is palindrome.

y)Write a program to determine and print the sum of the following harmonic series for a given value of n.

  1+12+13+------+1n

Code:

#include<stdio.h>

void main()

{

    int i,n;

    float sum=0.0,r;

printf("enter the number\n");

scanf("%d",&n);

    for(i=1;i<=n;i++)

    {

        r=(float)1/i;

        sum=sum+r;

    }

printf(" the sum is %f",sum);

}

Out put:

enter the number

2

the sum is 1.500000

z)Write a ‘C’ program to calculate the sum of the following series

Code:

#include<stdio.h>

void main()

{

    int n,i;

    float sum=0.0,r;

printf("enter n value");

scanf("%d",&n);

    for(i=1;i<=n;i++)

    {

        r=(float)1/(i\*i);

        if(i%2==0)

        sum=sum-r;

        else

        sum=sum+r;

    }

printf("sum=%f",sum);

}

Out put:

enter n value4

sum=0.798611

A)Write a ‘C’ program to generate 100 terms of the Fibonacci series and print their sum and average.

#include<stdio.h>

void main()

{

    int i, t1 = 0, t2 = 1,sum=1, k,a;

printf("Fibonacci Series: ");

printf("%d\t%d\t",t1,t2);

    for (i = 1; i<= 10; i++)

    {

        k = t1 + t2;

printf("%d\t",k);

        sum=sum+k;

        t1 = t2;

        t2 = k;

    }

    a=sum/12;

printf("sum is %d\n",sum);

printf("average is %d\n",a);

}

Out put:

Fibonacci Series: 0 1 1 2 3 5 8 13 21 34 55 89 sum is 232

average is 19