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Ha 7.1

*/\**

*Antarin Ghosal*

*HA7.1 WAP to test whether a number num (num is entered through keyboard) is a number in*

*the Fibonacci sequence or not.*

*\*/*

int fibo(int x)

{

    int a=-1,b=1,c=a+b,flag=0;

    while(c<=x)

    {

        if(c==x)

            flag=1;

        a=b;

        b=c;

        c=a+b;

    }

    return flag;

}

int main()

{

    int num;

    printf("Enter a number: ");

    scanf(" %d",&num);

    if(fibo(num))

        printf("%d comes in fibonaci series",num);

    else

        printf("IT DOES NOT COMES IN FIBONACCI SERIES");

    return 0;

}

Ha 7.2

*/\**

*Antarin Ghosal*

*HA7.2 WAP to compute the power series (e to the power x).*

*ex=1+x+x^2/2!+x^3/3!+x^4/4!+���..*

*\*/*

#include<stdio.h>

int POWER(int x,int y)

{

    int pow=1,i;

    for(i=1;i<=y;i++)

        pow\*=x;

    return pow;

}

int fact(int x)

{

    int i,fact=1;

    for(i=1;i<=x;i++)

        fact\*=i;

        return fact;

}

int main()

{

    int x,term=1;

    float sum=1.0;

    printf("ENTER THE VALUE OF X: ");

    scanf("%d",&x);

    while(term<x)

    {

        sum+=(float)POWER(x,term)/fact(term);

        term++;

    }

    printf("sum of the series: %0.2f",sum);

}

Ha 7.3

*/\**

*Antarin Ghosal*

*HA7.3 WAP to find the LCM of two numbers a and b by using a suitable function (say LCM) for this.*

*\*/*

#include<stdio.h>

int LCM(int a,int b)

{

    int i,lcm;

        for(i=1;i<=(a<b?a:b);i++)

            if(a%i==0&&b%i==0)

                lcm=i;

    return lcm;

}

int main()

{

    int x,y;

    printf("ENTER the value of A and B : ");

        scanf("%d %d",&x,&y);

    printf("LCM of %d and %d is %d",x,y,LCM(x,y));

    return 0;

}

Ha 7.4

*/\**

*Antarin Ghosal*

*HA7.4 WAP to find out the sum of n elements of an integer array a[] by using recursion.*

*\*/*

#include<stdio.h>

void sumOfArray(int a[],int n,int sum)

{

    if(n>=0)

    {

        sum+=(a[n]);

    sumOfArray(a,n-1,sum);

    }

    else

    printf("Sum:%d",sum);

}

int main()

{

    int i,n,sum=0;

    printf("ENTER NUMBER OF ARRay elements: ");

    scanf("%d",&n);

    int a[n];

    printf("Enter array elements:\n");

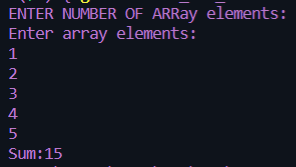
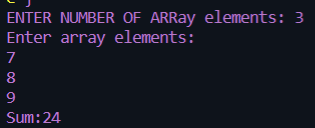
    for(i=0;i<n;i++)

        scanf("%d",&a[i]);

        sumOfArray(a,n-1,sum);

    return 0;

}

Ha 7.5

*/\**

*Antarin Ghosal*

*HA7.5 WAP by designing a recursive function to calculate the sum of all even digits of*

*any given integer.*

*\*/*

#include<stdio.h>

void sumEd(int num,int sum)

{

    if(num!=0)

    {

        if((num%10)%2==0)

            sum+=num%10;

        sumEd(num/10,sum);

    }

    else

    printf("SUM OF EVEN DIGIT:%d ",sum);

    return;

}

int main()

{

    int n,sum=0;

    printf("ENter the number: ");

    scanf("%d",&n);

    sumEd(n,sum);

    return 0;

}

La 7.1

*/\**

*Antarin Ghosal*

*LA7.1 WAP to swap the values of two variables by using a suitable user defined function*

*(say SWAP) for it.*

*\*/*

#include<stdio.h>

void SWAP(int x,int y)

{

    x=x+y;

    y=x-y;

    x=x-y;

    printf("value of a:%d b:%d After swap\n ",x,y);

}

int main()

{

    int a,b;

    printf("Enter the value of a and b: ");

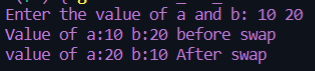
    scanf("%d %d",&a,&b);

    printf("Value of a:%d b:%d before swap\n",a,b);

    SWAP(a,b);

    return 0;

}

La 7.2

*/\**

*Antarin Ghosal*

*LA7.2 WAP to find out ncr factor by using a user defined function for factorial (say fact).*

*\*/*

#include<stdio.h>

int fact(int x)

{

    int i,fact=1;

    for(i=1;i<=x;i++)

        fact\*=i;

        return fact;

}

int main()

{

    int n,r;

    printf("Enter the value of n and r: ");

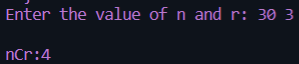
    scanf("%d %d",&n,&r);

    int nCr=fact(n)/(fact(r)\*fact(n-r));

    printf("\nnCr:%d",nCr);

    return 0;

}

La 7.3

*/\**

*Antarin Ghosal*

*LA7.3 WAP to test whether a number n is palindrome number or not.*

*\*/*

#include<stdio.h>

int pali(int x)

{

    int rem,rev,temp;

    temp=x;

    while(x!=0)

    {

        rem=x%10;

        rev=rev\*10+rem;

        x=x/10;

    }

    if(rev==temp)

        return 1;

    else

        return 0;

}

int main()

{

    int n;

    printf("Enter a number: ");

    scanf("%d",&n);

    if(pali(n))

        printf("%d is palindrome",n);

    else

        printf("%d is not palndrome",n);

    return 0;

}

La 7.4

*/\**

*Antarin Ghosal*

*LA7.4 WAP to calculate x^y by writing a function(say POWER) for it.*

*\*/*

#include<stdio.h>

int POWER(int x,int y)

{

    int pow=1,i;

    for(i=1;i<=y;i++)

        pow\*=x;

    return pow;

}

int main()

{

    int n,m;

    printf("Enter a number: ");

    scanf("%d",&n);

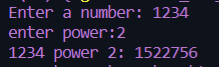
    printf("enter power:");

    scanf("%d",&m);

    printf("%d power %d: %d",n,m,POWER(n,m));

    return 0;

}

La 7.5

*/\**

*Antarin Ghosal*

*LA7.5 WAP to generate all the prime numbers between 1 and n by using a user defined*

*function (say isPRIME) to be used for prime number testing, where n is a value supplied by the user.*

*\*/*

#include<stdio.h>

int isPrime(int x)

{

    int flag=0,i;

    for(i=2;i<x;i++)

        if(x%i==0)

            flag=1;

    if(flag==1)

        return 0;

    else

        return 1;

}

int main()

{

    int n,i;

    printf("Enter the value of n: ");

    scanf("%d",&n);

    for(i=1;i<=n;i++)

        if(isPrime(i))

            printf("%d  ",i);

    return 0;

}

La 7.6

*/\**

*Antarin Ghosal*

*LA7.6 A Fibonacci sequence is defined as follows: the first and second terms in the*

*sequence are 0 and 1. Subsequent terms are found by adding the preceding two terms in the*

*sequence (Fi=Fi-1+Fi-2). WAP to generate the first n terms of the sequence by writing a*

*suitable user defined function (say fib) to be used to get nth term Fibonacci value.*

*\*/*

#include<stdio.h>

int fib(int x)

{

    int a=-1,b=1,c=a+b,i;

    for(i=1;i<=x;i++)

        {

            a=b;

            b=c;

            c=a+b;

        }

    return c;

}

int main()

{

    int n,i;

    printf("Enter the value of n: ");

    scanf("%d",&n);

    for(i=1;i<=n;i++)

        printf("%d ",fib(i));

    return 0;

}

La 7.7

*/\**

*Antarin Ghosal*

*LA7.7 WAP to compute the cosine series using function.*

*cos(x)=1-x^2/2!+x^4/4!-x^6/6!+ �*

*\*/*

#include<stdio.h>

int POWER(int x,int y)

{

    int pow=1,i;

    for(i=1;i<=y;i++)

        pow\*=x;

    return pow;

}

int fact(int x)

{

    int i,fact=1;

    for(i=1;i<=x;i++)

        fact\*=i;

        return fact;

}

int main()

{

    float sum=1.0;

    int term=1,y=2,n,x;

    printf("Enter the value of N: ");

    scanf("%d",&n);

    printf("enter the value of x: ");

    scanf("%d",&x);

    while(term<n)

    {

        if(term%2!=0)

            sum-=(float)POWER(x,y)/fact(y);

        else

            sum+=(float)POWER(x,y)/fact(y);

        y=y+2;

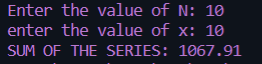
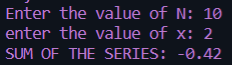
        term=term+1;

    }

    printf("SUM OF THE SERIES: %0.2f",sum);

    return 0;

}

La 7.8

*/\**

*Antarin Ghosal*

*LA7.8 WAP to count number of digits of a positive integer n by using recursion.*

*\*/*

#include<stdio.h>

void COUNT(int num,int count)

{

    if(num<0)

    {

        printf("the number is not postive");

        return;

    }

    if(num!=0)

    {

            count+=1;

        COUNT(num/10,count);

    }

    else

    printf("NUMBER OF DIGIT: :%d ",count);

    return;

}

int main()

{

    int n,count=0;

    printf("ENter the number: ");

    scanf("%d",&n);

    COUNT(n,count);

    return 0;

}