**A3 - WAP to generate positive Fibonacci numbers**

/\*

Name : Nestin Gregorios Sunny

Date : 21.04.2025

Description:

Write a program to print fibanocci series upto a given limit.

Sample Input :

Enter a number: 8

Sample Output :

0 1 1 2 3 5 8

\*/

#include<stdio.h>

int main()

{

int n, next = 0;

int first = 0, second = 1;

printf("Enter a number: "); //limit

scanf("%d",&n);

if(n >= 0)

{

while(first <= n)

{

printf("%d ",first); //printing first value only we will get output

next = first + second; //sum of first and second will be stored to next

first = second; //then we have to assign first value as second

second = next; //then we have to assign second value as next

}

}

else

{

printf("Invalid input");

}

return 0;

}

**A4 - WAP to check if number is perfect or not**

/\*

Name : Nestin Gregorios Sunny

Date : 22.04.2025

Description :

Find perfect number.

Sample Input :

Enter a number : 6

Sample Output :

6 is a perfect number.

\*/

#include<stdio.h>

int main()

{

int num,sum=0;

//printf("Enter a number : ");

scanf("%d",&num);

if(num >= 0)

{

for(int i = 1; i <= num/2; i++)

{

if(num % i == 0)

{

sum += i;

}

}

if( sum == num)

{

printf("Yes, entered number is perfect number");

}

else

{

printf("No, entered number is not a perfect number.");

}

}

else

{

printf("Error : Invalid Input, Enter only positive number");

}

return 0;

}

**A5 - WAP to generate AP, GP, HP series**

/\*

Name : Nestin Gregorios Sunny

Date : 28.04.2025

Description :

Write a program to find Arithematic Progresssion, Geometric Progresssion and Harmonic Progression

Sample Input :

Enter the First Number 'A': 2

Enter the Common Difference ? Ratio 'R': 3

Enter the number of terms 'N': 5

Sample Output :

AP = 2, 5, 8, 11, 14

GP = 2, 6, 18, 54, 162

HP = 0.500000, 0.200000, 0.125000, 0.090909, 0.071428

\*/

#include<stdio.h>

int main()

{

int A,R,N,i;

//printf("Enter the First Number 'A': ");

scanf("%d",&A);

//printf("Enter the Common Difference / Ratio 'R': ");

scanf("%d",&R);

//printf("Enter the number of terms 'N': ");

scanf("%d",&N);

int temp = A; //declaring a temporary variable help when we go for next for loop to again update A's value to First Number

if( N > 0)

{

A= temp;

printf("AP = %d",A); //Arithematic Progression

for(i = 0;i < N-1 ;i++)

{

A = A + R;

printf(", %d", A);

}

A= temp;

printf("\nGP = %d",A); //Geometric Progresssion

for(i = 0;i < N-1 ;i++)

{

A = A \* R;

printf(", %d", A);

}

float HP = temp; //here we are taking extra variable HP because starting variable is not A

printf("\nHP = "); //Harmonic Progression

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

{

printf("%f, ", (float)(1/HP));

HP = HP + R;

}

}

else

{

printf("Invalid input");

}

return 0;

}

**A6 - WAP to print the numbers in X format as shown below**

/\*

Name : Nestin Gregorios Sunny

Date : 23.04.2025

Description :

Write a program to print numbers in X pattern.

Sample Input :

Enter the number = 4

Sample Output :

1 5

2 4

3

2 4

1 5

\*/

#include<stdio.h>

int main()

{

int n, r, c;

//printf("Enter a number: ");

scanf("%d",&n);

if(n > 0)

{

for(r = 1; r <= n; r++)

{

for(c = 1; c <= n; c++)

{

if(r == c) //for left diagonal

{

printf("%d",c);

}

else if( n + 1 == r + c ) //for right diagonal

{

printf("%d",c);

}

else

{

printf(" ");

}

}

printf("\n");

}

}

else

{

printf("Error : Invalid Input");

}

return 0;

}

**A7 - WAP to print pyramid pattern as shown below**

/\*

Name : Nestin Gregorios Sunny

Date : 23.04.2025

Description :

Number Pyramid

Sample Input :

Enter the number: 4

Sample Output :

4

3 4

2 3 4

1 2 3 4

2 3 4

3 4

4

\*/

#include<stdio.h>

int main()

{

int n;

//printf("Enter the number: ");

scanf("%d",&n);

for(int i = n; i > 0; i--) //upper part of pyramid

{

for(int j = i ; j <= n; j++)

{

printf("%d ",j);

}

printf("\n");

}

for(int i= 2; i <= n; i++) //lower part of pyramid

{

for(int j = i; j <= n; j++)

{

printf("%d ",j);

}

printf("\n");

}

return 0;

}