Assignment - 11 A Job Ready Bootcamp in C++, DSA and IOT MySirG

More on functions in C Language

1. Write a function to calculate LCM of two numbers. (TSRS)

#include<stdio.h>

int lcm(int n1,int n2)

{

int i;

for(i=n1>n2?n1:n2; i<=n1\*n2; i++)

if(i%n1==0 && i%n2==0)

break;

return i;

}

int main(){

int n1,n2;

printf("Enter two number: ");

scanf("%d%d",&n1,&n2);

printf("LCM is: %d",lcm(n1,n2));

return 0;

}

2. Write a function to calculate HCF of two numbers. (TSRS)

#include<stdio.h>

int hcf(int n1,int n2)

{

int i;

for(i=n1<n2?n1:n2; i>=1; i--)

if(n1%i==0 && n2%i==0)

break;

return i;

}

int main(){

int n1,n2;

printf("Enter two number: ");

scanf("%d%d",&n1,&n2);

printf("LCM is: %d",hcf(n1,n2));

return 0;

}

3. Write a function to check whether a given number is Prime or not. (TSRS)

#include <stdio.h>

#include <math.h>

int nextPrime(int num)

{

int i = num + 1, j;

while (1)

{

for (j = 2; j <= i/2; j++)

{

if (i % j == 0)

break;

}

if (j-1 == i/2)

break;

i++;

}

return i;

}

int main()

{

int num;

printf("Enter a number: ");

scanf("%d", &num);

printf("Next Prime Number is: %d", nextPrime(num));

return 0;

}

4. Write a function to find the next prime number of a given number. (TSRS)

#include <stdio.h>

#include <math.h>

int nextPrime(int num)

{

int i = num + 1, j;

while (1)

{

for (j = 2; j <= i/2; j++)

{

if (i % j == 0)

break;

}

if (j-1 == i/2)

break;

i++;

}

return i;

}

int main()

{

int num;

printf("Enter a number: ");

scanf("%d", &num);

printf("Next Prime Number is: %d", nextPrime(num));

return 0;

}

5. Write a function to print first N prime numbers (TSRN)

#include <stdio.h>

#include <math.h>

int firstNPrime(int n)

{

int i = 1, j;

while (n)

{

for (j = 2; j <= i / 2; j++)

{

if (i % j == 0)

break;

}

if (j - 1 == i / 2)

{

printf("%d ", i);

n--;

}

i++;

}

}

int main()

{

int n;

printf("Enter a number: ");

scanf("%d", &n);

firstNPrime(n);

return 0;

}

6. Write a function to print all Prime numbers between two given numbers. (TSRN)

#include <stdio.h>

#include <math.h>

void prime(int x, int y)

{

int i, j;

for (i = x; i <= y; i++)

{

for (j = 2; j <= i/2; j++)

{

if (i % j == 0)

break;

}

if (j - 1 == i/2)

printf("%d ", i);

}

}

int main()

{

int a, b;

printf("Enter the two number: ");

scanf("%d%d", &a, &b);

prime(a, b);

return 0;

}

7. Write a function to print first N terms of Fibonacci series (TSRN)

#include<stdio.h>

void fibo(int n)

{

if(n==1)

printf("0 ");

else if(n==2)

printf("0 1");

else

{

int x=0,y=1;

printf("0 1 ");

for(int i=3; i<=n; i++)

{

int sum = x+y;

x = y;

y = sum;

printf("%d ",sum);

}

}

}

int main()

{

int term;

printf("How many terms you want to print: ");

scanf("%d",&term);

fibo(term);

return 0;

}

8. Write a function to print PASCAL Triangle. (TSRN)

#include <stdio.h>

int fact(int n)

{

int fact = 1;

for (int i = 1; i <= n; i++)

fact \*= i;

return fact;

}

void pascalTriangle(int lines)

{

int k,col;

for (int i = 1; i <= lines; i++)

{

k = 1,col=0;

for (int j = 1; j < 2 \* lines; j++)

{

if (k && j >= (lines + 1) - i && j <= (lines - 1) + i)

{

printf("%d ",fact(i-1)/(fact(i-1-col)\*fact(col)));

col++;

k = 0;

}

else

{

printf(" ");

k = 1;

}

}

printf("\n");

}

}

int main()

{

int lines;

printf("How many lines you want to print: ");

scanf("%d", &lines);

pascalTriangle(lines);

return 0;

}

9. Write a program in C to find the square of any number using the function.

#include <stdio.h>

int square(int n)

{

return n \* n;

}

int main()

{

int n;

printf("Enter any number: ");

scanf("%d", &n);

printf("Square is: %d", square(n));

return 0;

}

10. Write a program in C to find the sum of the series 1! /1+2!/2+3!/3+4!/4+5!/5 using the

function.

// 1! /1+2!/2+3!/3+4!/4+5!/5

#include<stdio.h>

int fact(int n)

{

int fact = 1;

for (int i = 2; i <= n; i++)

fact \*= i;

return fact;

}

int sumOfTheSeries(int term)

{

int sum = 0;

for (int i = 1; i <= term; i++)

{

sum += fact(i) / i;

}

return sum;

}

int main()

{

int term;

printf("How many terms sum you need: ");

scanf("%d", &term);

printf("Sum is: %d", sumOfTheSeries(term));

return 0;

}