–––Assignment – 11

A Job Ready Bootcamp in C++, DSA and IOT

More on functions in C Language

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

Program:

#include<stdio.h>

int lcm(int, int);

int lcm(int x,int y)

{

x<y?x:y;

for(int i=x;i<+(x\*y);i++)

{

if(i%x==0 && i%y==0)

{

return i;

}

}

}

int main()

{

int x,y;

printf("Enter the two numbers: ");

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

printf("LCM= %d",lcm(x,y));

printf("\n");

return 0;

}

Output:

Enter the two numbers: 4 5

LCM= 20

--------------------------------

Process exited after 2.489 seconds with return value 0

Press any key to continue . . .

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

PROGRAM:

#include<stdio.h>

int hcf(int, int);

int hcf(int x,int y)

{

x<y?x:y;

for(int i=x;i<=(x\*y);i++)

{

if(i%x==0 && i%y==0)

{

int result= (x\*y)/i;

return result;

}

}

}

int main()

{

int x,y;

printf("Enter the two numbers: ");

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

printf("HCF= %d",hcf(x,y));

printf("\n");

return 0;

}

Ouput:

Enter the two numbers: 4 5

HCF= 1

--------------------------------

Process exited after 7.125 seconds with return value 0

Press any key to continue . . .

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

PROGRAM:

#include<stdio.h>

int check\_prime(int );

int check\_prime(int n)

{

int count=0;

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

{

if(n%i==0)

{

count++;

}

}

if(count==1)

return 1;

else

return 2;

}

int main()

{

int n, flag=0;

printf("enter a number: ");

scanf("%d",&n);

flag= check\_prime(n);

if(flag==1)

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

else

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

printf("\n");

return 0;

}

OUTPUT:

enter a number: 1

1 is not a prime number.

--------------------------------

Process exited after 1.939 seconds with return value 0

Press any key to continue . . .

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

PROGRAM:

#include<stdio.h>

int next\_prime(int );

int check\_prime(int);

int check\_prime(int n)

{

int count=0;

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

{

if(n%i==0)

{

count++;

}

}

if(count==1)

return 1;

else

return 0;

}

int next\_prime(int n)

{

int i=1;

int flag=0;

while(flag!=1)

{

flag=check\_prime(n+i);

i++;

}

return n+i-1;

}

int main()

{

int n;

printf("enter a number: ");

scanf("%d",&n);

printf("Next prime nuber is %d",next\_prime(n));

printf("\n");

return 0;

}

OUTPUT:

enter a number: 11

Next prime nuber is 13

--------------------------------

Process exited after 5.926 seconds with return value 0

Press any key to continue . . .

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

PROGRAM:

#include<stdio.h>

void print\_prime(int);

int check\_prime(int);

int check\_prime(int n)

{

int count=0;

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

{

if(n%i==0)

{

count++;

}

}

if(count==1)

return 1;

else

return 0;

}

void print\_prime(int n)

{

int flag=0,count=0;

for(int i=1; count!=n;i++)

{

flag=check\_prime(i);

if(flag==1)

{

printf("%d ",i);

count++;

}

}

}

int main()

{

int n;

printf("enter number of prime numbers: ");

scanf("%d",&n);

printf("%d prime numbers are :\n",n);

print\_prime(n);

printf("\n");

return 0;

}

OUTPUT:

enter number of prime numbers: 10

10 prime numbers are :

2 3 5 7 11 13 17 19 23 29

--------------------------------

Process exited after 2.435 seconds with return value 0

Press any key to continue . . .

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

Program:

#include<stdio.h>

void print\_prime(int,int);

int check\_prime(int);

int check\_prime(int n)

{

int count=0;

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

{

if(n%i==0)

{

count++;

}

}

if(count==1)

return 1;

else

return 0;

}

void print\_prime(int x,int y)

{

int flag=0,count=0;

x<y?x:y;

for(int i=(x+1); i<y;i++)

{

flag=check\_prime(i);

if(flag==1)

{

printf("%d ",i);

count++;

}

}

}

int main()

{

int x,y;

printf("enter tow numbers to print all Prime numbers between them: ");

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

printf("prime numbers are :\n");

print\_prime(x,y);

printf("\n");

return 0;

}

OUTPUT:

enter tow numbers to print all Prime numbers between them: 5 50

prime numbers are :

7 11 13 17 19 23 29 31 37 41 43 47

--------------------------------

Process exited after 7.277 seconds with return value 0

Press any key to continue . . .

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

PROGRAM:

#include<stdio.h>

void print\_fibo(int);

void print\_fibo(int n)

{

int t1=0,t2=1,t3,count=2;

printf("0 1 ");

while(count!=n)

{

t3=t1+t2;

printf("%d ",t3);

t1=t2;

t2=t3;

count++;

}

}

int main()

{

int n;

printf("enter the number of terms in fibonacci series: ");

scanf("%d",&n);

print\_fibo(n);

printf("\n");

return 0;

}

OUTPUT:

enter the number of terms in fibonacci series: 10

0 1 1 2 3 5 8 13 21 34

--------------------------------

Process exited after 1.16 seconds with return value 0

Press any key to continue . . .

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

PROGRAM:

#include<stdio.h>

void pascal\_triangle(int);

int ncr(int, int);

int fact(int n);

int fact(int n)

{

int fact=1;

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

{

fact=fact\*i;

}

return fact;

}

int ncr(int n, int r)

{

int x;

x= fact(n)/(fact(r)\*fact(n-r));

return x;

}

void pascal\_triangle(int n)

{

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

{

for(int j=0;j<(n-i); j++)

{

printf(" ");

}

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

{

printf("%d ",ncr(i,k));

}

printf("\n");

}

}

int main()

{

int n;

printf("enter the number of row of pascal triangle: ");

scanf("%d",&n);

pascal\_triangle(n);

printf("\n");

return 0;

}

OUTPUT:

enter the number of row of pascal triangle: 5

1

1 1

1 2 1

1 3 3 1

1 4 6 4 1

--------------------------------

Process exited after 2.819 seconds with return value 0

Press any key to continue . . .

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

PROGRAM:

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

#include<stdio.h>

int square(int);

int square(int n)

{

return n\*n;

}

int main()

{

int n;

printf("enter the number: ");

scanf("%d",&n);

printf("square of %d is %d",n,square(n));

printf("\n");

return 0;

}

------------------------

OUTPUT:

enter the number: 11

square of 11 is 121

--------------------------------

Process exited after 1.689 seconds with return value 0

Press any key to continue . . .