Fundamentals Of Programming

Instructor Muhammad Affan

LAB Manual 5 Home task
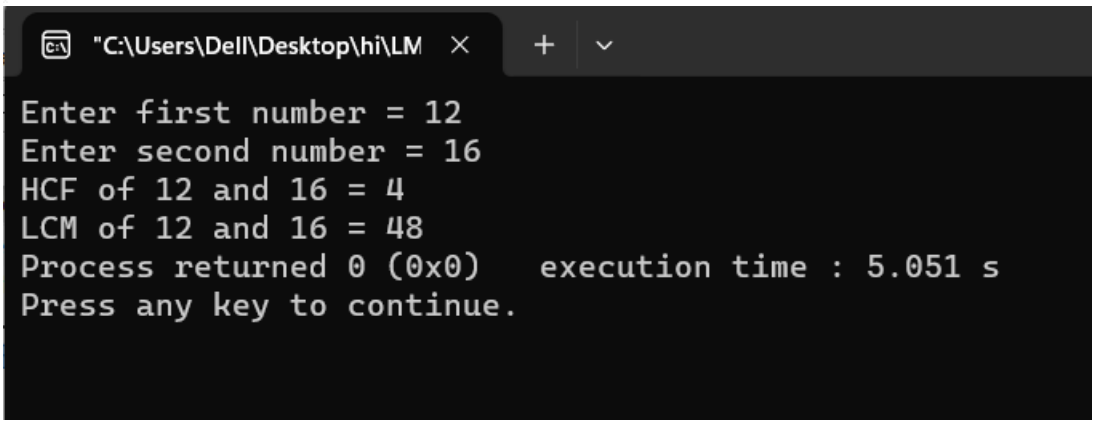
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ME-15-C

465231

```cpp
//1. Write a program in C++ to find LCM of any two numbers using HCF.
#include <iostream>

using namespace std;

int main()
{
int a,b,c;
cout<<"Enter first number = ";
cin>>a;
cout<<"Enter second number = ";
cin>>b;
for(int i=1;i<=a||i<=b;i++){
if(a%i==0&&b%i==0){
c=i;
}
}
cout<<"HCF of "<<a<<" and "<<b<<" = "<<c<<endl;
int LCM = (a*b)/c;
cout<<"LCM of "<<a<<" and "<<b<<" = "<<LCM;
return 0;
}
```

```
"C:\Users\Dell\Desktop\hi\LM    ×     +    ∨

Enter first number = 12
Enter second number = 16
HCF of 12 and 16 = 4
LCM of 12 and 16 = 48
Process returned 0 (0x0)    execution time : 5.051 s
Press any key to continue.
```
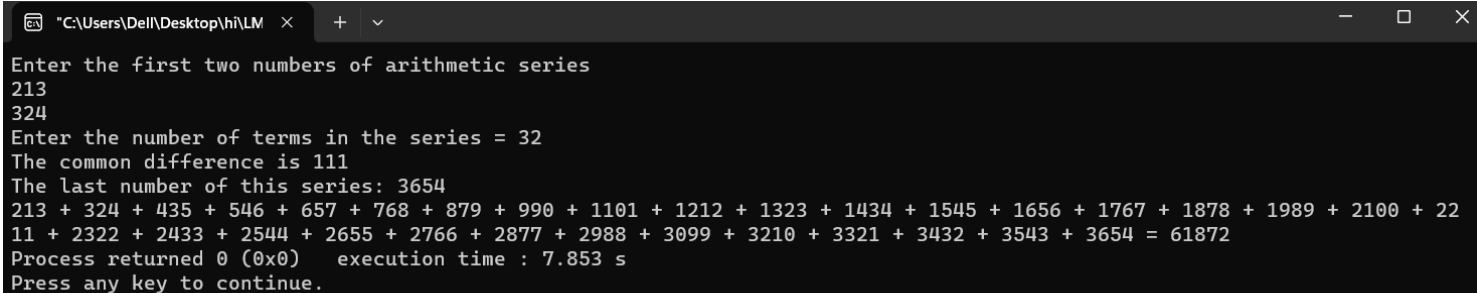
```cpp
//2. Write a program in C++ to find out the sum of an Arithmetic progression series.
#include <iostream>

using namespace std;

int main()
{
    int x,y,z;
cout<<"Enter the first two numbers of arithmetic series \n";
cin>>x;
cin>>y;
cout<<"Enter the number of terms in the series = ";
cin>>z;
int s= y-x;
cout<<"The common difference is "<<s<<endl;
int D = (z/2)*(2*x+(z-1)*s) ;
int q=x+(z-1)*s;
cout<<"The last number of this series: "<<q<<endl;
int w=x;
for(w;w<=q;w=w+s){
if(w!=q){
cout<<w<<" + ";
}
else
cout<<w<<" = ";
}
cout<<D;

return 0;
}
```

```cpp
//3. Write a program in C++ to create a diamond.
#include <iostream>

using namespace std;

int main()
{
    int a,b,c;
    cout<<"Enter the number of rows = ";
    cin>>a;
    for(int i=1;i<=a;i++){
    for(b=a;b>=i;b--){
    cout<<" ";}
    for(c=1;c<=(2*i)-1;c++){
    cout<<"*";}
    cout<<"\n";
    }
    for(int j=a;j>=1;j--){
    for(b=a;b>=j;b--){
    cout<<" ";
    }
    for(c=1;c<=(2*j)-1;c++){
    cout<<"*";}
    cout<<"\n";
    }

    return 0;
    }
```

```
"C:\Users\Dell\Desktop\hi\LM   ×    +   ∨

Enter the number of rows = 7
        *
       ***
      *****
     *******
    *********
   ***********
  *************
 *************
  ***********
   *********
    *******
     *****
      ***
       *

Process returned 0 (0x0)    execution time : 2.156 s
Press any key to continue.
```

```cpp
//Write a program in C++ to convert a decimal number to binary number.
#include <iostream>

using namespace std;

int main()
{
    int p,q,z=0;
cout<<"Enter the decimal number ";
cin>>p;
cout<<"("<<p<<") =";
for(p;p>0;p=p/2){
q=p%2;
cout<<q;}

return 0;
}
```
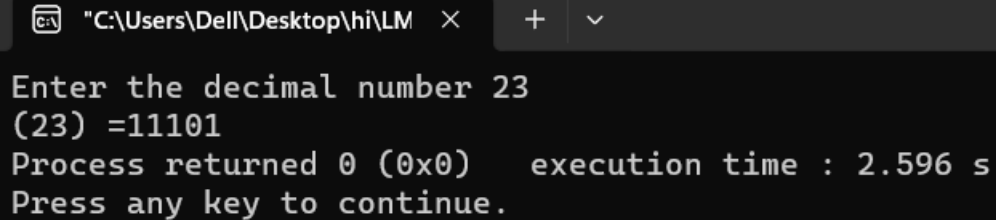
```
"C:\Users\Dell\Desktop\hi\LM    X    +    ∨

Enter the decimal number 23
(23) =11101
Process returned 0 (0x0)    execution time : 2.596 s
Press any key to continue.
```