NUST

NATIONAL UNIVERSITY
OF SCIENCES & TECHNOLOGY

Home Task # 5

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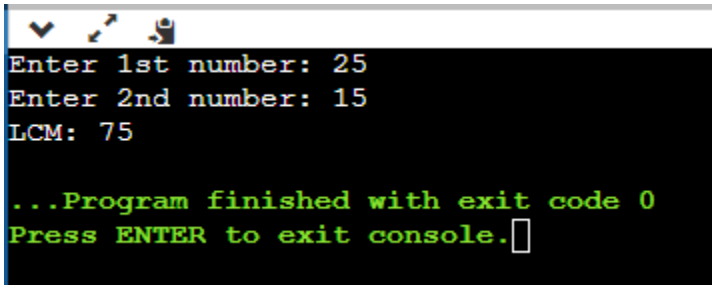
TASK 1

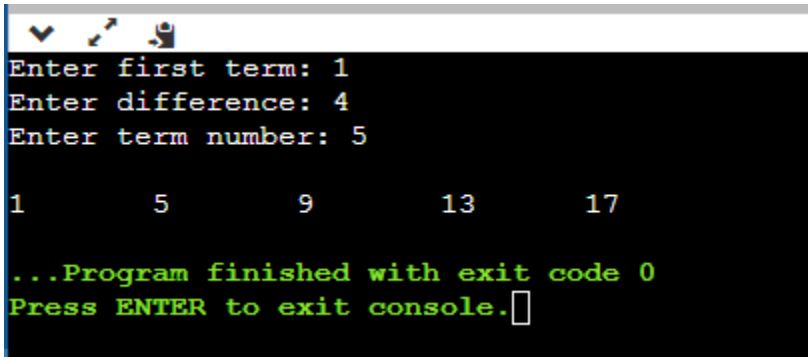
```
#include <iostream>
using namespace std;
int main(){
   int num1, num2, lcm, hcf, bigger;
   cout << "Enter 1st number: ";
   cin >> num1;
   cout << "Enter 2nd number: ";
   cin >> num2;
   if (num1 >= num2){
      bigger = num1;
   }
   else{
      bigger = num2;
   }
   for (int i = 1 ; i <= bigger; ++i){
      if (num1 % i == 0 && num2 % i == 0){
         if (i != 1){
            hcf = i;
         }
         if (i == 1){
            hcf = 1;
         }
      }
   }

   lcm = ((num1 * num2) / hcf);
   cout << "LCM: " << lcm;
   return 0;
}
```



TASK 2

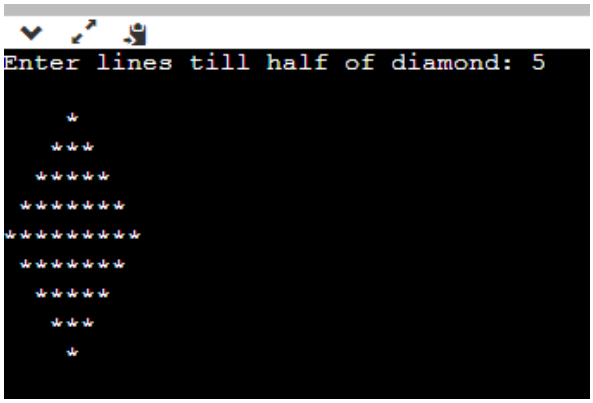
```
#include <iostream>
using namespace std;
int main()
{
        double a, d, n,i,sum,j;
        char flag = 'y';
        cout <<"Enter first term: ";
        cin >> a;
        cout <<"Enter difference: ";
        cin >> d;
        cout <<"Enter term number: ";
        cin >> n;
        cout<<endl;
   for (int i = a; i <= (a + (n - 1) * d); i = i + d){
   sum = sum + i;
   cout << i << "\t";
}
   return 0;
}
```



TASK 3

```
#include <iostream>
using namespace std;
int main()
{
   int mid_row;
   cout << "Enter lines till half of diamond: ";
   cin >> mid_row;
   cout << endl;
        for (int i = 1; i <= mid_row; ++i){
           for (int j = 1; j <= (mid_row - i) ; ++j){
              cout << " ";
           }
           for (int k = 1; k <= (2 * i - 1) ; ++k){
                 cout << "*";
           }
           cout << endl;
        }

        for (int i = mid_row - 1; i >= 1; --i){
           for (int j = 1; j <= (mid_row - i) ; ++j){
              cout << " ";
           }
           for (int k = 1; k <= (2 * i - 1) ; ++k){
                 cout << "*";
           }
           cout << endl;
        }
   return 0;
}
```



Task 4

```
#include <iostream>
using namespace std;
int main()
{
   int num, remainder_, quotient, multiplier = 1, binary = 0;
   string reverse = "";
   cout << "Enter number: ";
   cin >> num;
   while (num != 0){
      quotient = num / 2;
      remainder_ = num % 2;
      binary = binary + ( remainder_ * multiplier);
      num = quotient;
      multiplier = multiplier * 10;
   }
   cout << binary;
   return 0;
}
```

main.cpp

```cpp
#include <iostream>
using namespace std;
int main()
{
    int num, remainder_, quotient, multiplier = 1, binary = 0;
    string reverse = "";
    cout << "Enter number: ";
    cin >> num;
    while (num != 0){
        quotient = num / 2;
        remainder_ = num % 2;
        binary = binary + ( remainder_ * multiplier);
        num = quotient;
        multiplier = multiplier * 10;
    }
    cout << binary;
    return 0;
}

```

input

```
Enter number: 47
101111

...Program finished with exit code 0
Press ENTER to exit console.
```