

# **Fundamentals of Programming**

## **Home Task: 5**

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# Task:1

## Code:

```
#include <iostream>
using namespace std;

int main() {
    int x,y,hcf,lcm;
    cout << "Enter the first number"<<endl;
    cin>>x;
    cout<<"Enter the second number"<<endl;
    cin>>y;
    if (y!=0){
        hcf=x%y;
    }
    lcm=(x*y)/hcf;
    cout<<"The LCM of the selected numbers is : "<<lcm;

    return 0;
}
```

## Output:

```
Enter the first number
13
Enter the second number
7
LCM of the given numbers is : 15
```

## Task: 2

### Code:

```
#include <iostream>

using namespace std;

int main() {
    int x,y,t,ans;

    cout << "Enter the First number"<<endl;
    cin>>x;
    cout<<"Enter the Last number"<<endl;
    cin>>y;
    cout<<"Enter the number of the Terms to be added"<<endl;
    cin>>t;
    ans=(t/2)*(x+y);
    cout<<"The sum of Arithmetic Progression is : "<<ans<<endl;

    return 0;
}
```

### Output:

```
Enter the First number
56
Enter the Last number
34
Enter the number of the Terms to be added
17
The sum of Arithmetic Progression is : 720
```

## Task: 3

Code:

```
#include<iostream>

using namespace std;

int main() {

    int size;

    cout << "Enter the size of the shape"<<endl;
    cin >> size;


    for(int i = 1; i <= size; i++) {
        for(int j = 1; j <= size-i; j++) {
            cout<<" ";
            for(int j=1;j<=2*i-1;j++){
                cout << "*";
            }
            cout << "\n";
        }
        for(int i=size-1;i>=1;i--){
            for(int j=1;j<=size-i;j++){
                cout<<" ";
                for(int j=1;j<=2*i-1;j++){
                    cout<<"*";
                }
                cout << "\n";
            }
        }

    return 0; }
```

## Output:

```
Enter the size of the shape
8

      *
     * *
    * * *
   * * * *
  * * * * *
 * * * * * *
* * * * * * *
 * * * * * *
  * * * * *
   * * * *
    * * *
     * *
      *
```

# Task: 4

## Code:

```
#include <iostream>
using namespace std;
int main(){
    int dec,count=0,i;
    cout<<"Enter the decimal number : ";
    cin>>dec;
    int binary[32];
    if(dec==0)
    {
        binary[count++]=0;
    }
    else{
        while(dec>0){
            int a=dec%2;
            binary [count++]=a;
            dec/=2;
        }
    }
    cout<<"The value of given number in binary is : ";
    for(i = count-1;i>=0;i--){
        cout<<binary[i];
    }
    cout<<endl;
    return 0; }
```

## Output:

```
Enter the decimal number : 35
The value of given number in binary is : 100011
```