1# Find if 2 numbers are Coprime or Not:

Coprime: No common factors other than 1.

Sample:

23

24

Coprime

2# Find the Least Common Multiply of 2 numbers.

Sample:

3

5

Least Common Multiply is 15

3# find the greatest prime number that is smaller than N.
Sample:
11
Greatest prime number less than 11 is 7

4# Display the first N Fibonacci sequence values after 0 and 1.

Sample:

3

0, 1, 1, 2, 3

5# Display a rectangle With Rows and Columns that starts with 10 and everytime increases 5.

Take inputs as long as rows not equal columns.

Sample:

Rows=3

Columns=4

10 15 20 25

30 35 40 45

50 55 60 65

6# Display a Square with Numbers and Stars and it's length = L
Sample:
L=5
1**
12***
123**
1234*
12345

7# Display the Maximum Two Numbers from a list of numbers the user will enter and their index.
It ends when the user enters a negative number.
Sample:
2
3
6
5
8
-1
The two max. Numbers are 8, 6 and their index 5, 3

8# Display the Minimum Two Numbers from a list of numbers the user will enter.
It ends when the user enters a negative number.
Sample:
6
9
2
12
5
-1
The two min. Numbers are 2, 5.

9# Display the sum of the series: $2+2^2+2^3+2^4+\ldots..2^n$
Sample:
Enter The Length of the series
3
The Sum =14

10# The user will enter a base number and the power.
Display the result, if the power is negative, Display an Error.
Sample:
The base number: 2
The power: 3
The result: 8
Do another? (y\n): y
The base number: 3
The power: -4
ERROR!!
Do another? (y\n): n

11# Display two right-angled triangles like this:
Sample:

5

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

12# Display the sum of the series from n1 to n2: $1+2^2+3^2+4^2+\ldots..n^2$

Sample:

2

5

The sum = 54

13# Display a multiplication table for N (5Coulmns). End the Program when it reaches 100.

Sample:

Input: 5

5, 10,15,20,25

30, 35,40,45,50

55, 60,65,70,75

80,85,90,95,100

Input: 8

8, 16,24,32,40

48,56,64,72,80

88, 96

14# Display the product of multiplication of odd numbers that are divisible by N.

Sample:

10

The product = 5

12

The product = 3

15# The user in a restaurant and he has 150 $, He will enter the price of the order he wants. If the price is bigger than the money he has, display that he can't order that. Else, display the amount of money he will pay.

Sample:

90

The amount of money = 90

200

You can't order this

16# Display number of even factors of N.

Sample:

60

Number of even factors = 8

17# Display if the number the user will enter is perfect or not.

If the sum of the factors of the number equals the number then this is a perfect number

Sample:

6

Perfect

1+2+3=6

18#

Display all the prime numbers between 1 and N.

Sample:

11

Prime numbers between 1 and 11 are 2,3,5,7,11.

~~Answers~~

1#

```
#include <iostream>
#include <algorithm>
using namespace std;
int main()
{
int x , y , c = 1 , mn ;
cin >> x >> y ;
mn = min (x,y) ;
for (int i = 2 ; i < mn ; i++ ){
if ( x % i == 0 && y % i == 0 )
c++;
}
if ( c == 1 )
cout << "Coprime" ;
else
cout <<"Not Coprime";
return 0;
}
```

2#

```
  int n1, n2, max;
    cout << "Enter two numbers: ";
    cin >> n1 >> n2;
     max = (n1 > n2) ? n1 : n2;
    do
    {   if (max % n1 == 0 && max % n2 == 0)
        {
            cout << "LCM = " << max;
            break;
        }
        else
            ++max;
     } while (true);
```

3#

```
int x;
bool isprime = true;
cin >> x;
for (int i=x-1;i>1;i--)
{
   isprime = true;
   for (int j=2;j<i;j++)
    {
     if (i%j == 0)
       {
        isprime = false;
        break;
       }
    }
    if (isprime == true)
    {
      cout << i << endl;
      break;
    }
}
```

4#

```
int N, first = 0, second = 1, next;
cout << "How many numbers: ";
cin >> N;
cout << first  << " " << second << " ";
for (int i = 1; i <= N; i++)
{
   next = first + second;
   cout << next << " ";
   first = second;
   second = next;
}
```

5#

```
int row,column,first=10;
cout <<"Enter Number of Rows";
cin >>row;
cout <<"Enter Number of columns";
cin >>column;
for(int i=0;i<row;i++)
{

    for(int j=0;j<column;j++)
    {
        cout <<first<<" ";
            first+=5;
    }
    cout <<endl;
}
```

6#

```
int number,numbers=1,stars;
cout<<"enter number..\n";
cin >>number;
for (int i=1;i<=number;i++)
{
    for(int j=0;j<i;j++)
    {
    cout << numbers;
    numbers++;
    }
    stars=i;
    while(stars<number)
    {
        cout <<"*";
        stars++;
    }
    cout << endl;
    numbers=1;
}
```

7#

```
int num,max1=0,max2=0,index1=0,index2=0;
int i=1,counter=1;
cout<<"Enter numbers(less than 0 to end): ";
while (i>0)
    {
    cin >> num;
    i=num;
    if(num < 0) break;
    else if (num < max1 && num > max2)
    {
    max2 = num;
    index2=counter;
    }
    else if (num > max1)
    {
        max2 = max1;
        max1 = num;
        index2=index1;
        index1=counter;
    }
    counter++;
    }
    cout << "The maximum two numbers are " << max1 << " and " <<
max2 <<" and their index are "<<index1<<" "<<index2<<endl;
```

8#

```
int num,min1,min2,Min;
cout<<"Enter numbers(less than 0 to end): ";
cin >> min1;
    if(min1 > 0) {cin >> min2;}
    Min = min (min1,min2);
    if(min2==Min) {min2=min1; min1=Min;}
    while(true){
        cin >> num;
    if (num < 0) {break;}
    else if (num > min1 && num < min2)
```

```
    {
        min2 = num;
    }
    else if (num < min1)
    {
        min2 = min1;
        min1 = num;
    }
     }
    cout << "The minimum two numbers are " << min1 << " and " << min2 <<"."<<endl;
```

9#

```
int Length,j=2,thesum=0;
cout << "Enter The Length of the series "<<endl;
cin >>Length;
while(Length>0)
{
    int power=1;
for(int i=0;i<Length;i++)
{
    power=power*j;
}
thesum+=power;
Length--;
}
cout <<"The Sum = "<<thesum;
```

10#

```
int base,power,result;
char ok;
do
{
cout<< "Enter The Base Number";
cin >> base;
cout<< "Enter The Power";
cin >> power;
result=1;
if (power<0)
```

```
{
    cout <<"ERROR!"<<endl;
}
else
{
 for(int i=0;i<power;i++)
 {
    result=result*base;
 }
  cout <<"The Result is "<<result<<endl;
}
cout <<"Do another? (y/n): ";
cin >>ok;
if(ok=='y')continue;
else if (ok=='n')break;
}while(ok=='y');
```

11#

```
{
int Number,stars=1,counter;
cout <<"Enter The Number..\n";
cin >>Number;
counter=Number/2;
for(int i=0;i<=counter;i++)
{
    for(int j=0;j<stars;j++)
    {
        cout <<"*";
    }
    cout <<endl;
    stars+=2;
}
stars=Number;
for(int i=0;i<=counter;i++)
{
    for(int j=0;j<stars;j++)
    {
        cout <<"*";
```

```
    }
    cout <<endl;
    stars-=2;
}
```

12#

```
int number1,number2,thesum=0;
cout <<"Enter First Number..\n";
cin >>number1;
cout <<"Enter last Number..\n";
cin >>number2;
for(int i=number1;i<=number2;i++)
{
    thesum+=i*i;
}
cout <<"The Sum = "<<thesum;
```

13#

```
int Number,Max;
cout<<"Enter number..\n";
cin >>Number;
Max=100/Number;
for(int i=1;i<=Max;i++)
{
     cout<<Number*i;
     if(Number*i<10)cout <<"  ";
     else cout <<" ";  //This will make the columns more arranged
if(i%5==0) cout<<endl;
}
```

14#

```
int Number,product=1;
cout <<"Please Enter a Number.. \n";
cin >>Number;
for (int i=1;i<Number;i++)
{
    if(Number%i==0&&i%2==1)product=product*i;
}
```

```
cout <<"The Product = "<<product;
```

15#

```
int Money=150,Price;
cout<<"Enter The Price..\n";
cin>>Price;
if(Price>Money)cout <<"You can't order this\n";
    else cout <<"The amount of money = "<<Price;
```

16#

```
int Number,counter=0;
cout<<"Enter The Number..\n";
cin>>Number;
for(int i=2;i<=Number;i++)
{
    if(Number%i==0&&i%2==0)counter++;
}
cout <<"The Number of even factors = "<<counter;
```

17#

```
int Number,result=0;
cout<<"Enter The Number..\n";
cin>>Number;
for(int i=1;i<Number;i++)
{
    if(Number%i==0)result+=i;
}
if(Number==result)cout <<"Perfect";
else cout <<" Not Perfect";
```

18#

```
int Number,G=2;
bool Prime;
cout<<"Enter a Number Please : \n";
cin>>Number;
cout <<"Prime Numbers between 1 and "<<Number<<" are ";
for(int i=1;i<=Number;i++)
{
    Prime=true;
    if(G>Number){break;}
       for(int j=2;j<G;j++)
    {
       if(G%j==0&&G!=2)
       {
           Prime=false;
           break;
       }
    }
    if(Prime==true){cout<<G<<',';}
    G++;
}
```