Instructions: Please read carefully

- Please rename this file as only your ID number **(e.g. 18-*****-1.doc or 18-*****-1.pdf).**
- Submit the file before **11:59pm on 17/10/2020** in the MS Teams assignment section labeled **Lab task 1.** **If you cannot complete the full task, do not worry. Just upload what you have completed.**

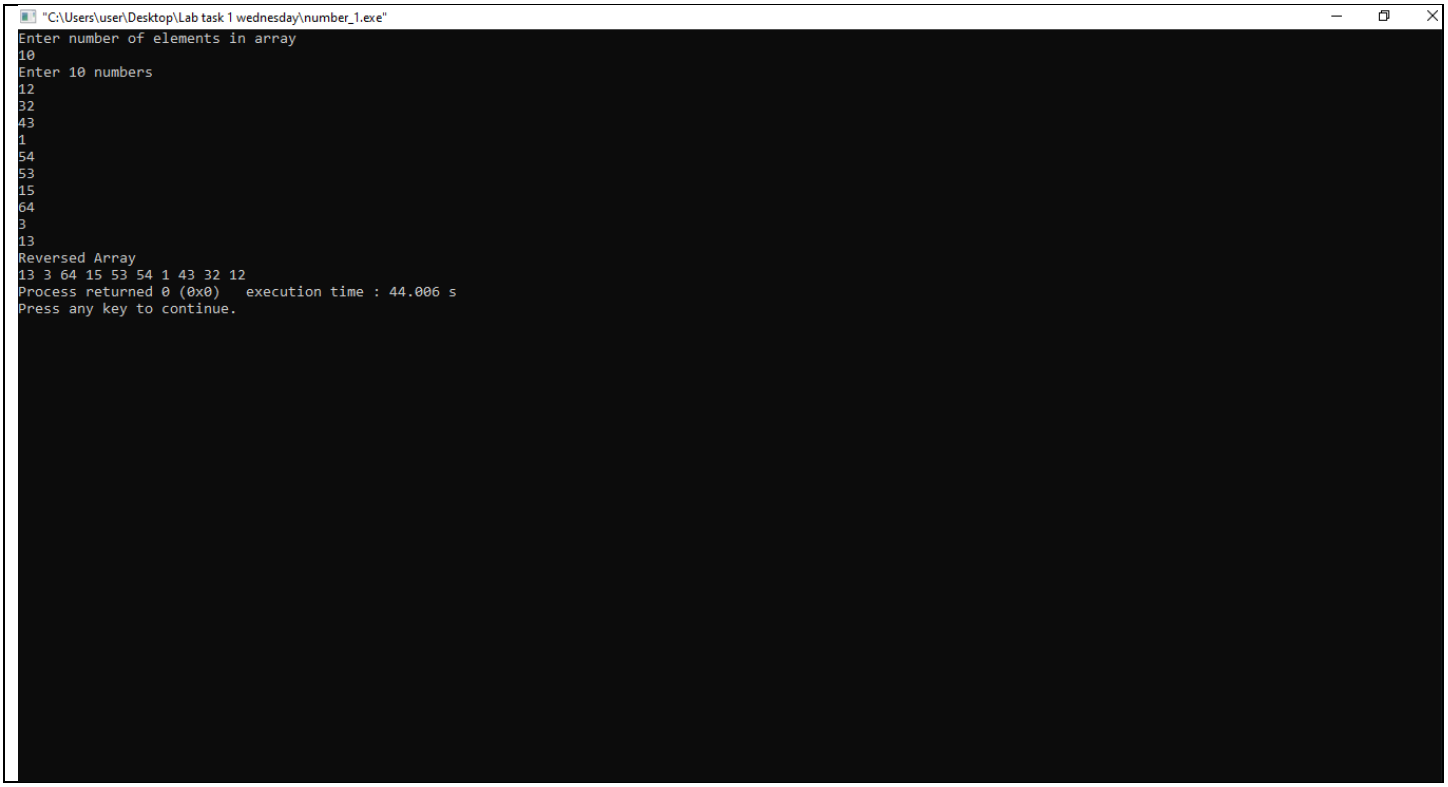
1. Initialize an array of 10 elements and print the array elements both in normal and reverse order.

For example,
Input: **12 32 43 1 54 53 15 64 3 13**
Output: **13 3 64 15 53 54 1 43 32 12**

Your code here:

```
#include <iostream>

using namespace std;

int main(){
   int input[50], output[50], count, i;

   cout << "Enter number of elements in array\n";
   cin >> count;

   cout << "Enter " << count << " numbers \n";

   for(i = 0; i < count; i++){
      cin >> input[i];
   }

   for(i = 0; i < count; i++){
      output[i] = input[count-i-1];
   }


   cout << "Reversed Array\n";
   for(i = 0; i < count; i++){
      cout << output[i] << " ";
   }

   return 0;
}
```

Your whole Screenshot here: (Console Output):



2. Initialize an integer array of 10 elements and print how many numbers are odd and how many numbers are even.

For example,

Input: **12 32 43 1 54 53 15 64 3 13**

Output:

6 odd numbers

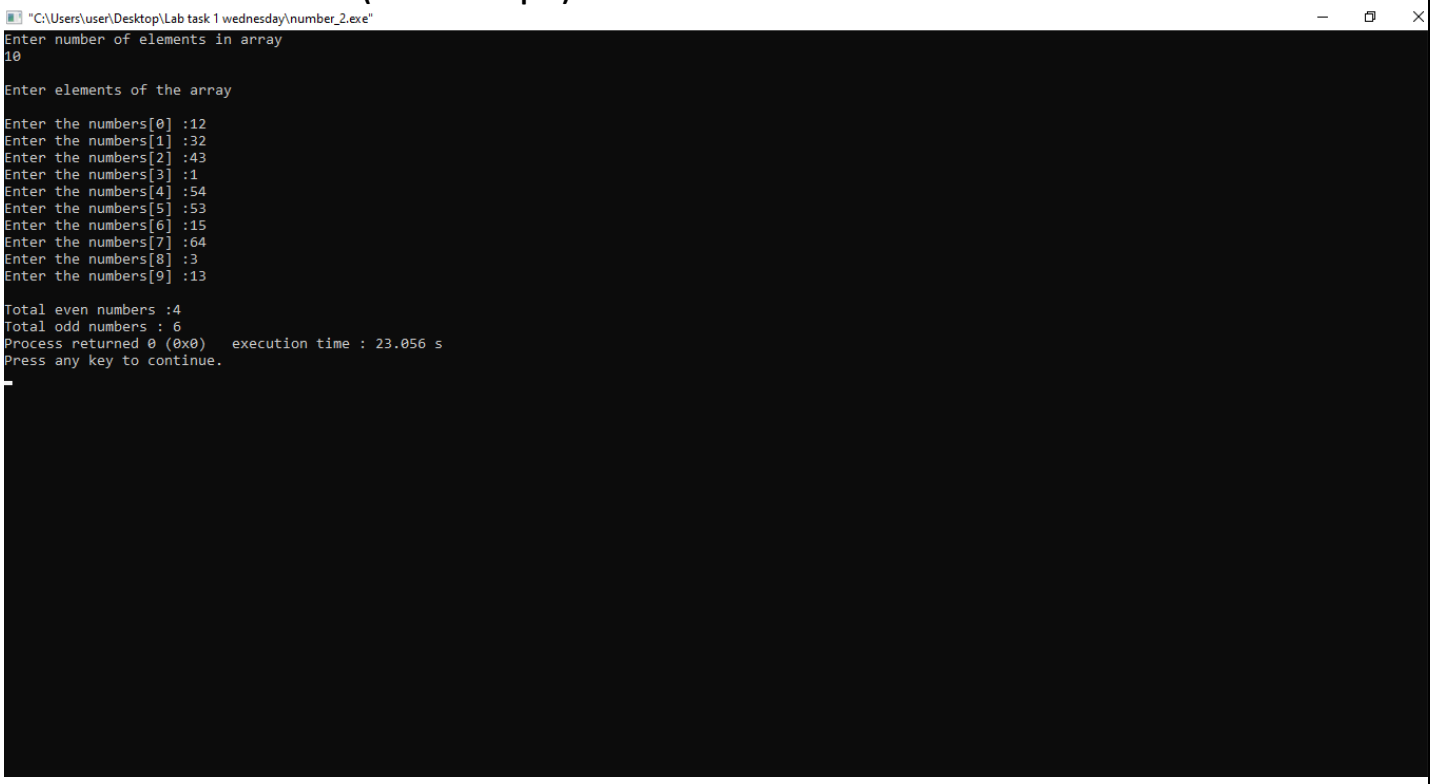
4 even numbers

Your code here:

```
#include <iostream>

using namespace std;

int main()
{
   int arr[80];
   int i,size,odd=0,even=0;

   cout<<"Enter number of elements in array\n";
   cin>>size;
   cout<<"\nEnter elements of the array\n\n";
   for(i=0; i<size; i++)
   {
      cout<<"Enter the numbers["<<i<<"] :";
      cin>>arr[i];
   }
   for(i=0; i<size; i++)
   {
      if(arr[i]%2==0)
```

```
    {
      even++;
    }
    else{
      odd++;
    }
  }
  cout<<"\nTotal even numbers :"<<even<<"\n";
  cout<<"Total odd numbers : "<<odd;

  return 0;
}
```

Your whole Screenshot here: (Console Output):



3. Write a function that takes TWO parameters to print all the odd numbers between a given range. Input the starting value of the range and ending value of the range. Then, send them as the parameters to your function.

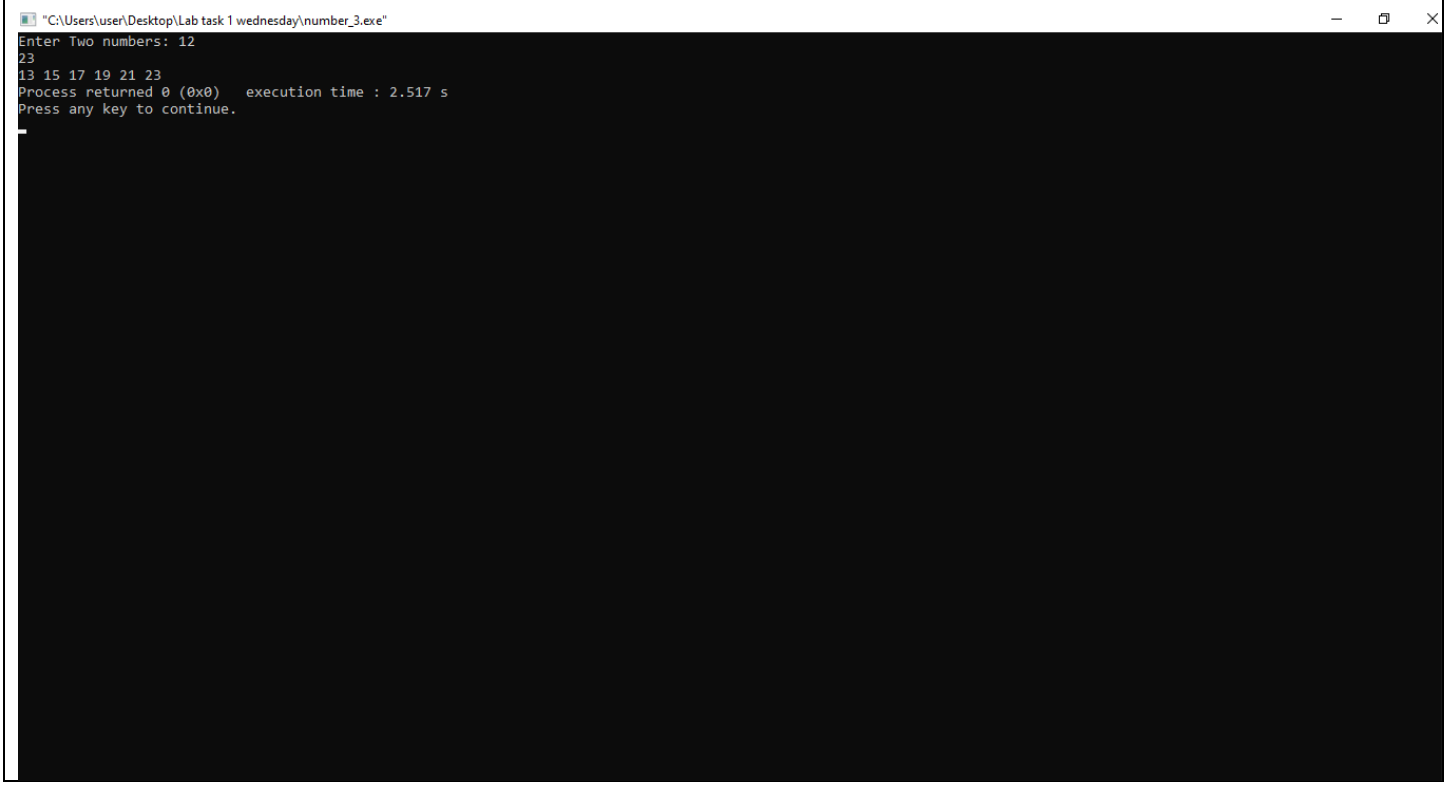
For example,
Output:
Starting value: 12
Ending value: 23
13 15 17 19 21 23

Your code here:

```
#include <iostream>

using namespace std;
```

```
void rangeCount(int i, int f){
   int arr[f-i];
   int j=0;
   for(int k=i; k<=f; k++){
      if(k%2 == 1){
         arr[j] = k;
         j++;
      }
   }
   for(int m=0; m<j; m++){
      cout<<arr[m]<<" ";
   }
}
int main(){
   int a, b;
   cout<<"Enter Two numbers: ";
   cin>>a>>b;
   rangeCount(a, b);
   return 0;
}
```

Your whole Screenshot here: (Console Output):



4. Write a program to perform matrix addition between 3 matrices.

For example,

Input:

12 13 14 1 2 3 101 104 107
15 16 17 4 5 6 102 105 108
18 19 20 7 8 9 103 106 109

Output:

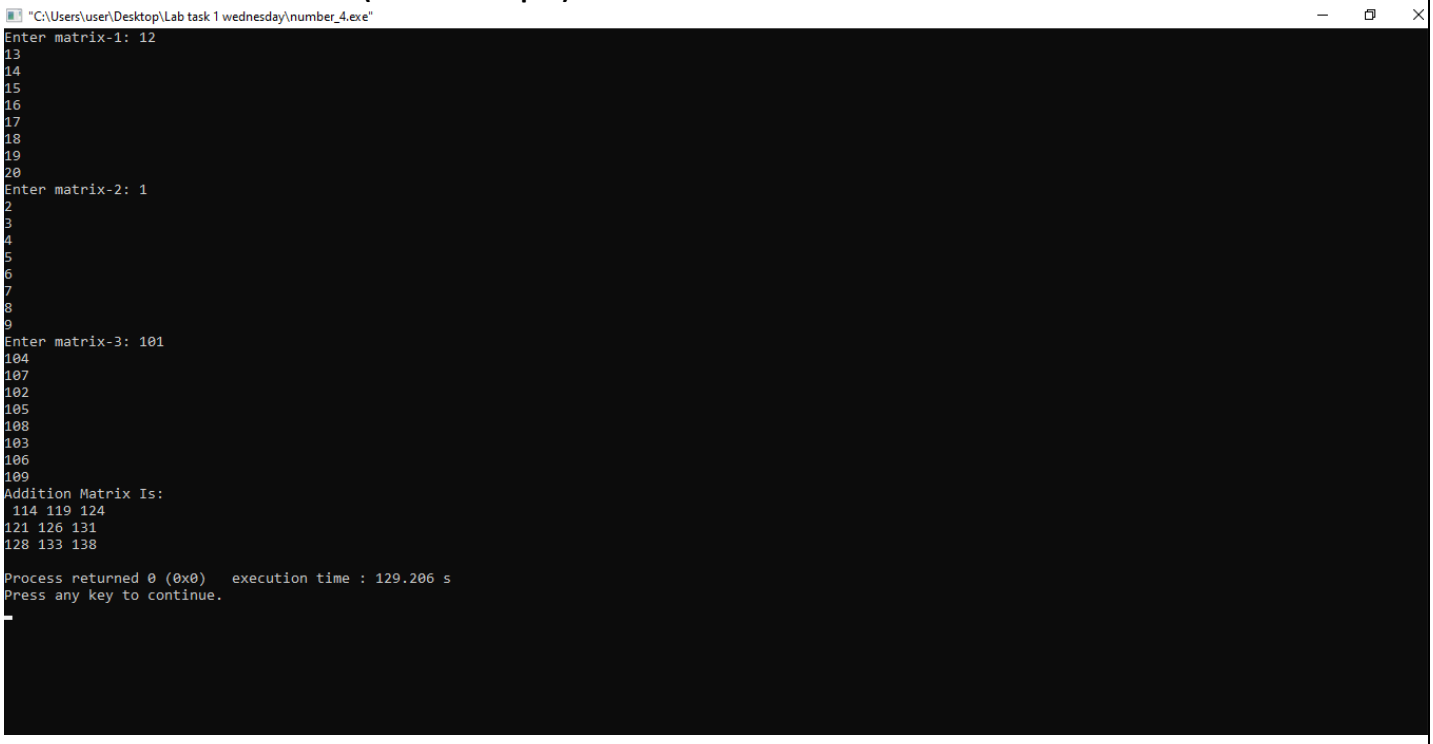
114 119 124
121 126 131
128 133 138

Your code here:

```
#include <iostream>

using namespace std;

int main(){
   int matrix1[3][3];
   int matrix2[3][3];
   int matrix3[3][3];
   int matrix4[3][3];

   int i, j;

   cout<<"Enter matrix-1: ";
   for(i=0; i<3; i++){
      for(j=0; j<3; j++){
         cin>>matrix1[i][j];
      }
   }



   cout<<"Enter matrix-2: ";
   for(i=0; i<3; i++){
      for(j=0; j<3; j++){
         cin>>matrix2[i][j];
      }
   }



   cout<<"Enter matrix-3: ";
   for(i=0; i<3; i++){
      for(j=0; j<3; j++){
         cin>>matrix3[i][j];
      }
   }


   cout<<"Addition Matrix Is:\n ";
   for(i=0; i<3; i++){
      for(j=0; j<3; j++){
         matrix4[i][j] = matrix1[i][j] + matrix2[i][j] + matrix3[i][j];
      }
   }
```

```
   for(i=0; i<3; i++){
      for(j=0; j<3; j++){
         cout<<matrix4[i][j]<<" ";
      }
      cout<<endl;
   }



   return 0;
}
```

Your whole Screenshot here: (Console Output):



5. Write a function to calculate factorial of a given integer number if that number is a prime number. If it is not, it will give an error.

For example,

Scenario 1

Input: **5**

Output: **120**

Scenario 2

Input: **4**

Output: **Error! Not a prime number.**

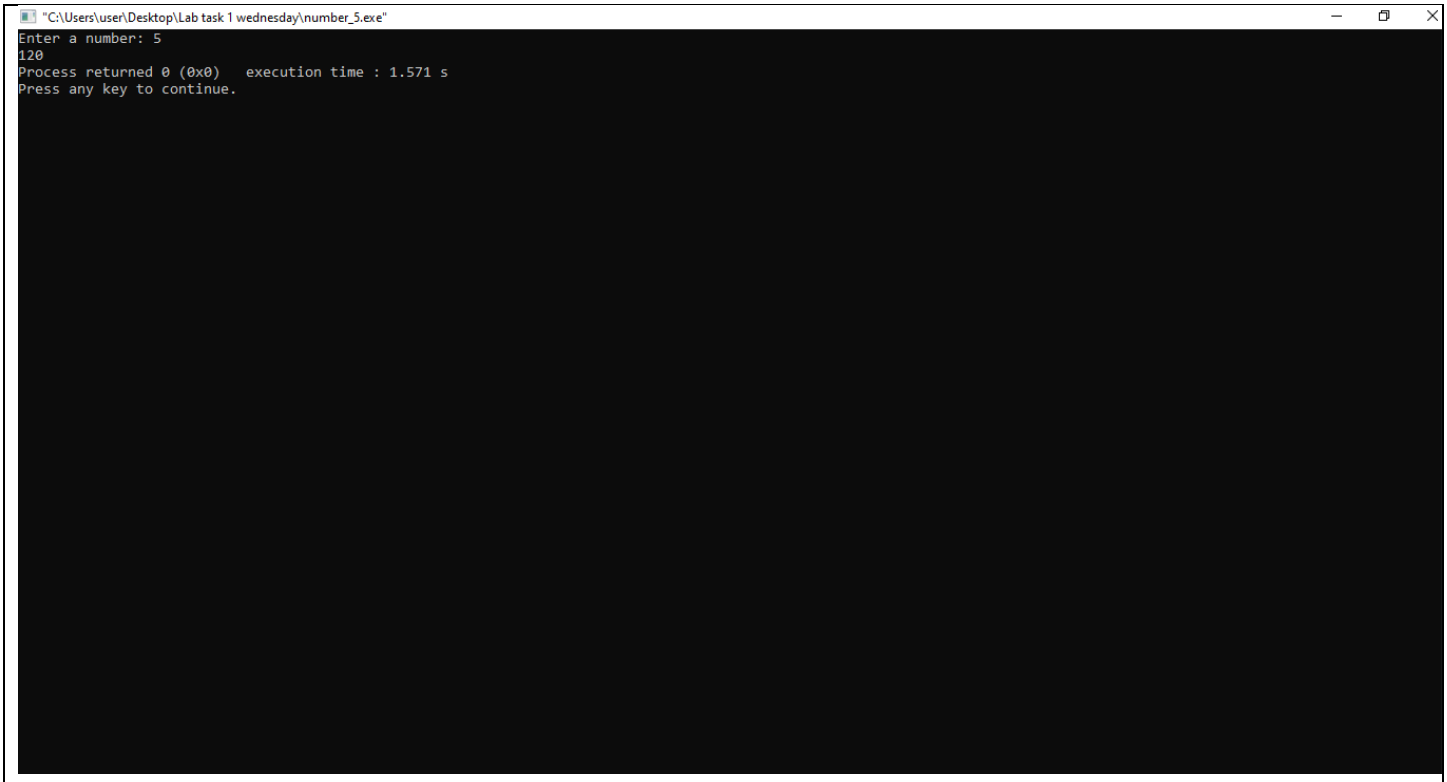
Your code here:

```
#include <iostream>

using namespace std;

void checkPrime(int p){
```

```
   int i;
   int chkP = 0;
   int r = p-1;
   int rslt = 1;
   for(i=2; i<=r; i++){
      if(p%i == 0){
         cout<<"Error! Not a prime number.";
      }else{
         chkP = 1;
      }
   }



   if(chkP == 1){
      for(int l=1; l<=p; l++){
         rslt *= l;
      }
      cout<<rslt;
   }
}



int main(){
   int p;
   cout<<"Enter a number: ";
   cin>>p;
   checkPrime(p);
   return 0;
}
```

Your whole Screenshot here: (Console Output):

Scenario 1


"C:\Users\user\Desktop\Lab task 1 wednesday\number_5.exe"
Enter a number: 5
120
Process returned 0 (0x0)   execution time : 1.571 s
Press any key to continue.

Scenario 2


"C:\Users\user\Desktop\Lab task 1 wednesday\number_5.exe"
Enter a number: 4
Error! Not a prime number.24
Process returned 0 (0x0)   execution time : 2.190 s
Press any key to continue.