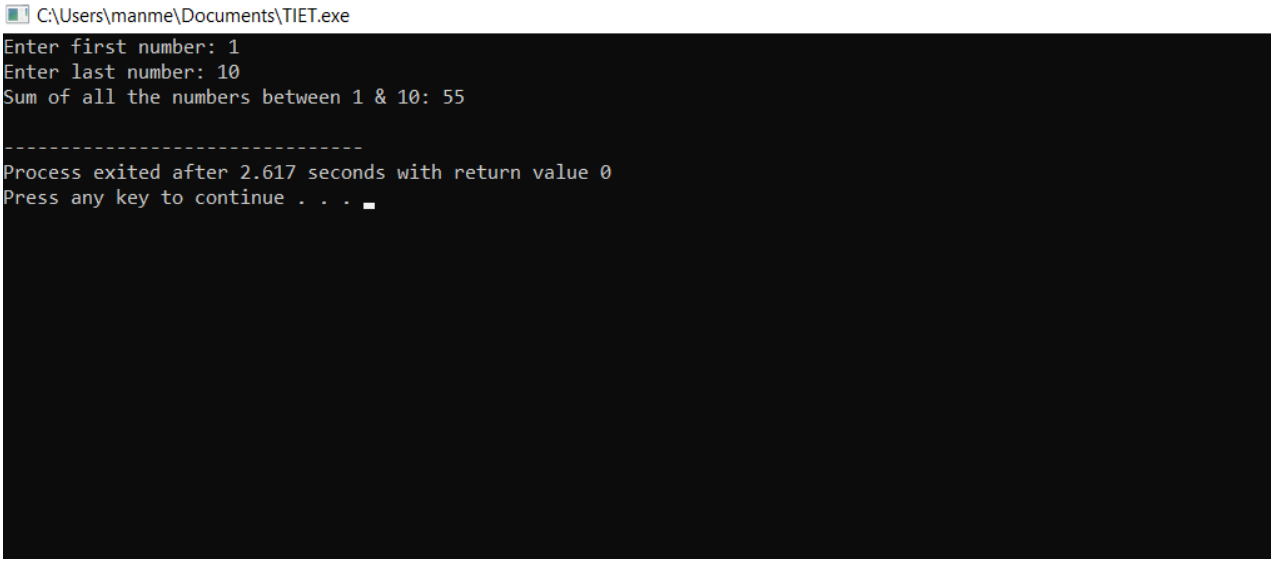
1(i)

```
#include <iostream>
using namespace std;
int main()
{
int first, last, sum=0;
cout<<"Enter first number: ";
cin>>first;
cout<<"Enter last number: ";
cin>>last;
for(int i=first;i<=last;i++)
{
        sum=sum+i;
}
cout<<"Sum of all the numbers between "<<first<<" & "<<last<<": "<<sum<<endl;
return 0;
}
```



1.(iv)

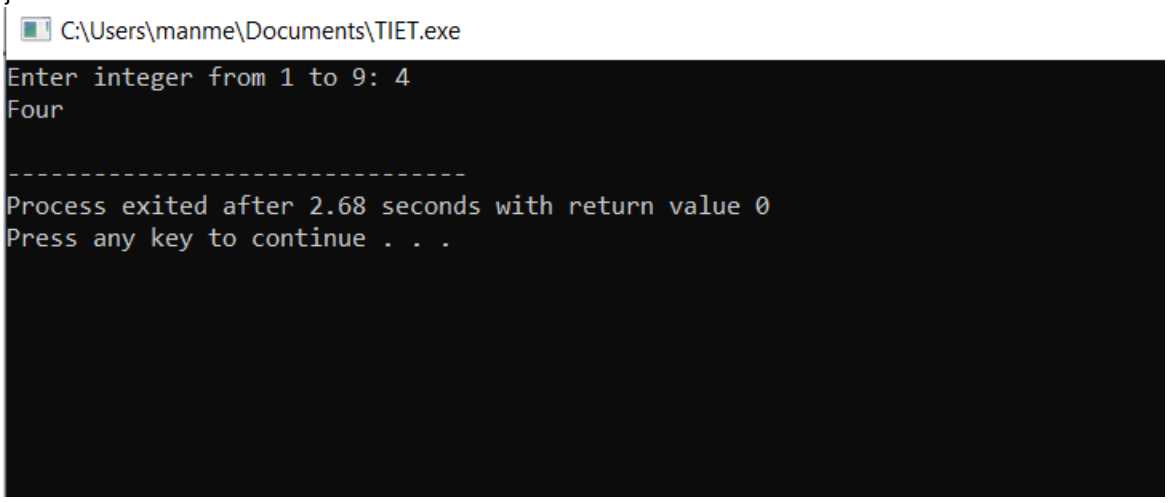
```
#include <iostream>
using namespace std;
int main()
{
        int n, count=0;
        cout<<"Enter number: ";
        cin>>n;
        if(n==0||n==1)
        {
                cout<<"It is not a prime number."<<endl;
        }
```

```
else
        {
        for(int i=2;i<n;i++){
                if(n%i==0)
                count++;
        }

        if(count>1)
        cout<<"It is not a prime number."<<endl;
        else
        cout<<"It is a prime number."<<endl;
  }
        return 0;
}
```

1(v)

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

int main()
{
int n;
cout<<"Enter integer from 1 to 9: ";
cin>>n;
switch(n)
{
        case 1:
                cout<<"One"<<endl;
                break;
        case 2:
                cout<<"Two"<<endl;
```

```
                break;
        case 3:
                cout<<"Three"<<endl;
                break;
        case 4:
                cout<<"Four"<<endl;
                break;
        case 5:
                cout<<"Five"<<endl;
                break;
        case 6:
                cout<<"Six"<<endl;
                break;
        case 7:
                cout<<"Seven"<<endl;
                break;
        case 8:
                cout<<"Eight"<<endl;
                break;
        case 9:
                cout<<"Nine"<<endl;
                break;
        default:
                cout<<"Enter valid integer"<<endl;
                break;
}
return 0;
}
```



1(vi)

```
#include <iostream>
using namespace std;
int main()
```

```
{
	int n;
	cout<<"Enter size of array: ";
	cin>>n;
	int *arr=new int(n);
	cout<<"Enter "<<n<<" elements of array: ";
	for(int i=0;i<n;i++)
	{
		cin>>arr[i];
	}
	cout<<"Elements of array are: "<<endl;
	for(int i=0;i<n;i++)
	{
		cout<<arr[i]<<" ";
	}
	cout<<endl<<"Writing array in reverse order: "<<endl;
	for(int i=n-1;i>=0;i--)
	{
		cout<<arr[i]<<" ";
	}
	return 0;
}
```

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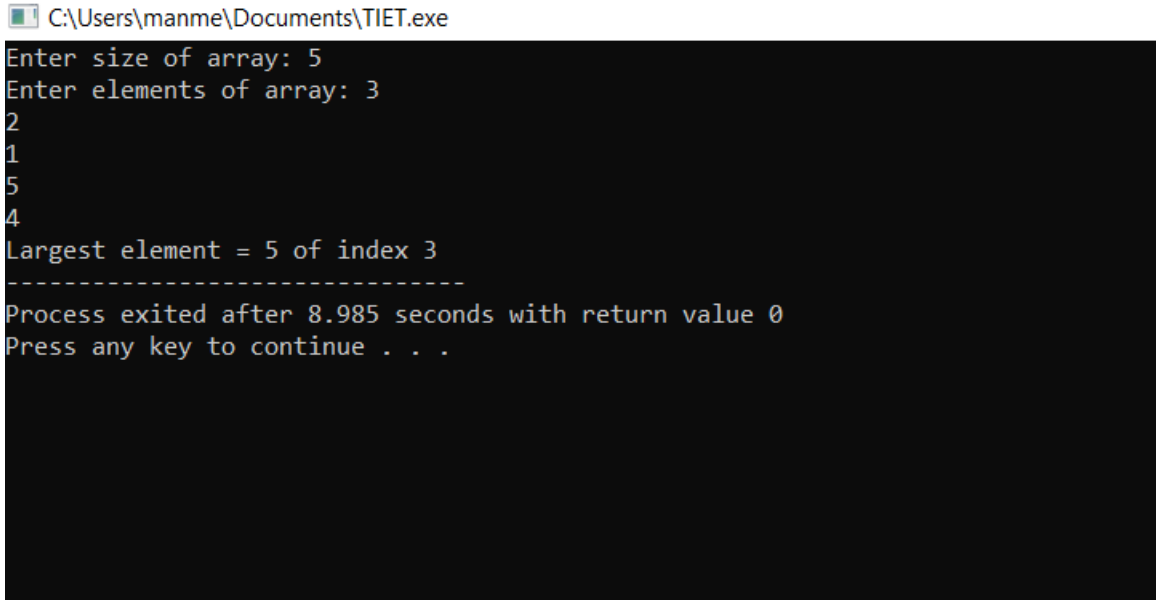
```
Enter size of array: 4
Enter 4 elements of array: 2
3
4
5
Elements of array are:
2 3 4 5
Writing array in reverse order:
5 4 3 2
--------------------------------
Process exited after 6.156 seconds with return value 0
Press any key to continue . . .
```

1(vii)

```
#include <iostream>
using namespace std;
int main()
{
	int n;
	int max, pos;
```

```
        cout<<"Enter size of array: ";
        cin>>n;
        int *arr=new int(n);
        cout<<"Enter elements of array: ";
        for(int i=0;i<n;i++)
        {
                cin>>arr[i];
        }
        for(int count=0;count<n;count++)
        {
                if(max<arr[count])
                {
                        max=arr[count];
                        pos=count;
                }
        }
        cout<<"Largest element = "<<max<<" of index "<<pos;
        return 0;

}
```



1(viii)

```
#include <iostream>
using namespace std;
int main()
{
        int n, a[40], c[40], i, j;
        cout<<"Enter size of arrray: ";
        cin>>n;
        cout<<"Enter elements of array: ";
```

```
	for(int i=0;i<n;i++)
	{
		cin>>a[i];
	}
	for( i=0;i<n;i++)
	{
		for( j=i-1;j<i;j++)
		{
			c[i]=a[j];
		}
	}
	c[0]=a[n-1];
	cout<<c[0]<<" ";
	for ( i=1;i<n;i++)
	{
		cout<<c[i]<<" ";
	}

	return 0;
}
```

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```
Enter size of arrray: 4
Enter elements of array: 1
2
3
4
Elements of array are: 1 2 3 4
On shifting the elements to the right:- 4 1 2 3
--------------------------------
Process exited after 5.584 seconds with return value 0
Press any key to continue . . .
```

1(ix)

```
#include <iostream>
using namespace std;
int main()
{
	int n;
	cout<<"Enter size of array: ";
	cin>>n;
	int *arr=new int(n);
	cout<<"Enter elements of array: ";
	for(int i=0;i<n;i++)
```

```
	{
		cin>>arr[i];
	}
	cout<<"Elements in array are: "<<endl;
	for(int i=0;i<n;i++)
	{
		cout<<arr[i]<<" ";
	}
	cout<<endl<<"Distinct elements in array are: "<<endl;
	for(int i=0;i<n;i++)
	{
		int j;
		for(j=0;j<i;j++)
		{
			if(arr[i]==arr[j])
		   break;
		}
		if(i==j)
		cout<<arr[i]<<" ";
	}
	return 0;
}
```

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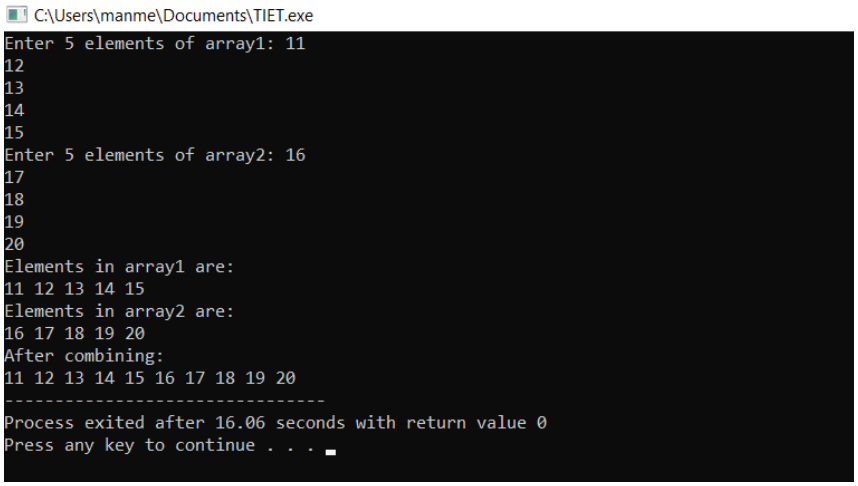
```
Enter size of array: 4
Enter elements of array: 2
2
2
2
Elements in array are:
2 2 2 2
Distinct elements in array are:
2
--------------------------------
Process exited after 4.168 seconds with return value 0
Press any key to continue . . .
```

1(x)

```
#include <iostream>
using namespace std;
int main()
{
	int a[5], b[5], c[10];
	cout<<"Enter 5 elements of array1: ";
	for(int i=0;i<5;i++)
	{
```

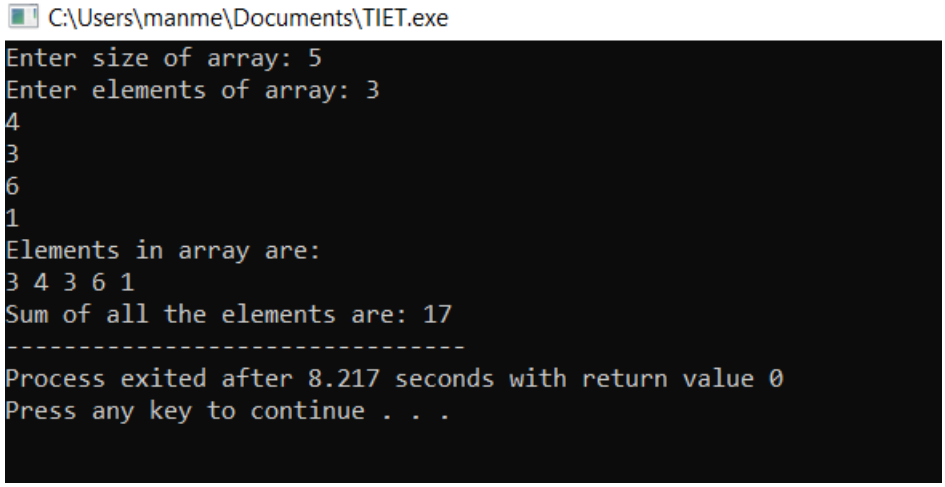
```
		cin>>a[i];
	}
	cout<<"Enter 5 elements of array2: ";
	for(int i=0;i<5;i++)
	{
		cin>>b[i];
	}
	cout<<"Elements in array1 are: "<<endl;
	for(int i=0;i<5;i++)
	{
		cout<<a[i]<<" ";
	}
	cout<<endl<<"Elements in array2 are: "<<endl;
	for(int i=0;i<5;i++)
	{
		cout<<b[i]<<" ";
	}
	cout<<endl<<"After combining: "<<endl;
	for(int i=0;i<5;i++)
	{
		c[i]=a[i];
		c[i+5]=b[i];
	}
		for(int i=0;i<10;i++)
	{
		cout<<c[i]<<" ";
	}
	return 0;
}
```



2(i)

```
#include <iostream>
```

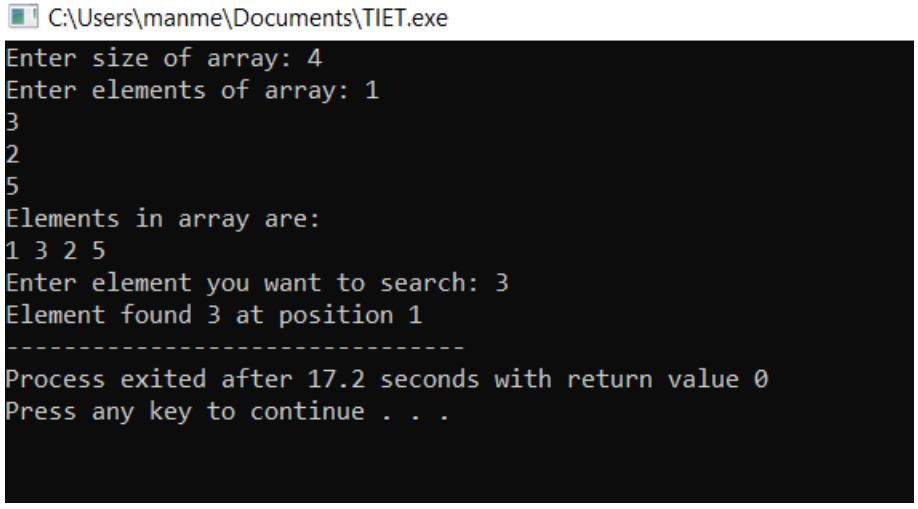
```
using namespace std;
int main()
{
	int sum=0, n;
	cout<<"Enter size of array: ";
	cin>>n;
	int *arr = new int(n);
	cout<<"Enter elements of array: ";
	for(int i=0;i<n;i++)
	{
		cin>>arr[i];
	}
	cout<<"Elements in array are: "<<endl;
	for(int i=0;i<n;i++)
	{
		cout<<arr[i]<<" ";
	}
	for(int i=0;i<n;i++)
	{
		sum+=arr[i];
	}
	cout<<endl<<"Sum of all the elements are: "<<sum;
	return 0;

}
```



2(iii)

```
#include <iostream>
using namespace std;
int main()
{
	int n, element, pos, c;
	cout<<"Enter size of array: ";
```

```
        cin>>n;
        int *arr=new int(n);
        cout<<"Enter elements of array: ";
        for(int i=0;i<n;i++)
        {
                cin>>arr[i];
        }
        cout<<"Elements in array are: "<<endl;
        for(int i=0;i<n;i++)
        {
                cout<<arr[i]<<" ";
        }
        cout<<endl<<"Enter element you want to search: ";
        cin>>element;
        for(int i=0;i<n;i++)
        {
                if(arr[i]==element){
                pos=arr[i];
                c=i;
                break;
           }
        }
        if(pos==element)
        cout<<"Element found "<<pos<<" at position "<<c;
        else
        cout<<"No element exist";
        return 0;
}
```



3

```
#include <iostream>
using namespace std;
int main()
```

```
{
	int a[5][5], b[5][5], c[5][5], d[5][5], i, j, m, n;
	cout<<"Enter the order of matrix: ";
	cin>>m>>n;
	cout<<"Enter elements of matrix A: ";
	for(i=0;i<m;i++)
	{
		for(j=0;j<n;j++)
		{
			cin>>a[i][j];
		}
	}
	cout<<"Enter elements of matrix B: ";
	for(i=0;i<m;i++)
	{
		for(j=0;j<n;j++)
		{
			cin>>b[i][j];
		}
	}
	cout<<endl<<" matrix A: "<<endl;
	for(i=0;i<m;i++)
	{
		for(j=0;j<n;j++)
		{
			cout<<a[i][j]<<" ";
		}
		cout<<endl;
	}
	cout<<endl<<" matrix B: "<<endl;
	for(i=0;i<m;i++)
	{
		for(j=0;j<n;j++)
		{
			cout<<b[i][j]<<" ";
		}
		cout<<endl;
	}
	c[i][j]=0;
	cout<<"Addition of matrix is: "<<endl;
	for(i=0;i<m;i++)
	{
		for(j=0;j<n;j++)
		{
	    c[i][j]=a[i][j]+b[i][j];
	    cout<<c[i][j]<<" ";
		}
		cout<<endl;
```

```
        }
        cout<<"Subtraction of matrix A from B is: "<<endl;
        for(i=0;i<m;i++)
        {
                for(j=0;j<n;j++)
                {
            d[i][j]=b[i][j]-a[i][j];
            cout<<d[i][j]<<" ";
                }
                cout<<endl;
        }
        return 0;

}
```

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```
Enter the order of matrix: 2
2
Enter elements of matrix A: 1
2
3
4
Enter elements of matrix B: 5
6
7
8

 matrix A:
1 2
3 4

 matrix B:
5 6
7 8
Addition of matrix is:
6 8
10 12
Subtraction of matrix A from B is:
4 4
4 4

--------------------------------
Process exited after 8.591 seconds with return value 0
Press any key to continue . . .
```

4

```
#include <iostream>
using namespace std;
int main()
{
```

```
        int a[5][5], b[5][5], mul[5][5], r1, c1, r2, c2, i, j, k;
        cout<<"Enter order of Matrix A: "<<endl;
        cin>>r1>>c1;
        cout<<"Enter order of Matrix B: "<<endl;
        cin>>r2>>c2;
        while (c1!=r2)
{
   cout << "Column of first matrix not equal to row of second matrix."<<endl;

   cout <<endl<< "Enter rows and columns for matrix A: ";
   cin >> r1 >> c1;

   cout << "Enter rows and columns for matrix B: ";
   cin >> r2 >> c2;
}
        cout<<"Enter elements of Matrix A: "<<endl;
        for(i=0;i<r1;i++)
        {
                for(j=0;j<c1;j++)
                {
                        cin>>a[i][j];
                }
        }
        cout<<"Enter elements of Matrix B: "<<endl;
        for(i=0;i<r2;i++)
        {
                for(j=0;j<c2;j++)
                {
                        cin>>b[i][j];
                }
        }
        cout<<"Matrix A is: "<<endl;
        for(i=0;i<r1;i++)
        {
                for(j=0;j<c1;j++)
                {
                        cout<<a[i][j]<<" ";
                }
                cout<<endl;
        }
        cout<<"Matrix B is: "<<endl;
        for(i=0;i<r2;i++)
        {
                for(j=0;j<c2;j++)
                {
                        cout<<b[i][j]<<" ";
                }
                cout<<endl;
```

```
        }
        mul[i][j]=0;
        cout<<"Product is: "<<endl;
        for(i=0;i<r1;i++)
        {
                for(j=0;j<c2;j++)
                for(k=0;k<c1;k++)
                {
                        mul[i][j]=a[i][k]*b[k][j];
                        cout<<mul[i][j]<<" ";
                }
                cout<<endl;
        }
        return 0;
}
```

C:\Users\manme\Documents\TIET.exe

```
Enter order of Matrix A:
2
1
Enter order of Matrix B:
1
3
Enter elements of Matrix A:
1
2
Enter elements of Matrix B:
3
4
5
Matrix A is:
1
2
Matrix B is:
3 4 5
Product is:
3 4 5
6 8 10

--------------------------------
Process exited after 12.56 seconds with return value 0
Press any key to continue . . .
```

6

```
#include <iostream>
using namespace std;
class rectangle{
        private:
                int l,b;
        public:
```

```
        void input()
        {
                cout<<"Enter length of rectangle: ";
                cin>>l;
                cout<<endl<<"Enter breadth of rectangle: ";
                cin>>b;
        }
        void display()
        {
                cout<<endl<<"Area of rectangle is: "<<l*b<<endl;
                cout<<"Perimeter of rectangle is: "<<2*(l+b)<<endl;
        }
};
int main()
{
        rectangle obj;
        obj.input();
        obj.display();
        return 0;
}
```