Report No: 1
Report Name: Write a C++ program for Character Matching, Maximum number finding and Minimum number finding from an array of data.
Code:

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

int main()
{
   int i, max, min, size, flag = 0;
   char CharCharArry;
   char search;

   cout << "Enter size of the array: ";
   cin >> size;
   int myArray[size];
   char CharArry[size];

   for (int i = 0; i < size; i++)
   {
      cout << "Enter " << (i+1) << " Element(Matching Character): ";
      cin >> CharArry[i];
   }
   cout << "Search Element:";
   cin >> search;
   for (int i = 0; i < size; i++)
   {
      if (search == CharArry[i])
      {
         cout << "Element is found in position " << (i+1);
         flag = 1;
         break;
      }
   }
   if (flag == 0)
   {
      cout << "Element is not found";
   }

   for (i = 0; i < size; i++)
   {
      cout << "\nEnter " << (i + 1) << " elements(Max and Min): ";
      cin >> myArray[i];
   }

   max = myArray[0];
```

```
   min = myArray[0];

   for (i = 1; i < size; i++)
   {
      if (myArray[i] > max)
      {
         max = myArray[i];
      }

      if (myArray[i] < min)
      {
         min = myArray[i];
      }
   }

   cout << "\nMaximum num =" << max << endl;
   cout << "Minimum num =" << min;

   return 0;
}
```

Output:

```
Enter size of the array: 4
Enter 1 Element(Matching Character): s
Enter 2 Element(Matching Character): o
Enter 3 Element(Matching Character): h
Enter 4 Element(Matching Character): e
Search Element:h
Element is found in position 3

Enter 1 elements(Max and Min): 45

Enter 2 elements(Max and Min): 30

Enter 3 elements(Max and Min): 15

Enter 4 elements(Max and Min): 65

Maximum num =65
Minimum num =15
```

Report No: 2

Report Name: Write a Program to Find the Largest Two Numbers in a given Array.

Code:

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

```
int main()
{
   int size, i, largest = 0, second_largest = 0, pos1, pos2;
   cout << "Enter size of the array: ";
   cin >> size;
   int myArray[size];
   for (i = 0; i < size; i++)
   {
      cout << "Enter " << (i + 1) << " Element :" <<endl;
      cin >> myArray[i];
   }

   for (i = 0; i < size; i++)
   {
      if (myArray[i] > largest)
      {
         largest = myArray[i];
         pos1 = i;
      }
   }
   for (i = 0; i < size; i++)
   {
      if (myArray[i] > second_largest)
      {
         if (myArray[i] == largest) continue;
         second_largest = myArray[i];
         pos2 = i;
      }
   }
   cout << "\nLargest Number :" << largest << " at position " << (pos1 + 1);
   cout << "\nSecond Largest Number :" << second_largest << " at position " << (pos2 + 1);

   return 0;
}
```

Output:

```
Enter size of the array: 4
Enter 1 Element :
65
Enter 2 Element :
98
Enter 3 Element :
45
Enter 4 Element :
24

Largest Number :98 at position 2
```

Second Largest Number :65 at position 1

Report No: 3
Report Name: Write a program to count the number of even and odd numbers in a given array.
Code:

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

int main()
{
   int i, even = 0, odd = 0, size;

   cout << "Enter size of the array: ";
   cin >> size;
   int myArray[size];

   for (i = 0; i < size; i++)
   {
      cout << "\nEnter " << (i + 1) << " elements: ";
      cin >> myArray[i];
   }

   for (i = 0; i < size; i++)
   {
      if (myArray[i] % 2 == 0){
        even++;
      }else{
         odd++;
      }
   }

   cout << even <<endl;
   cout << odd;

   return 0;
}
```

Output:

```
Enter size of the array: 4

Enter 1 elements:  12
Enter 2 elements:  35
Enter 3 elements:  48
Enter 4 elements:  97

Number of Even:  2
Number of odd:  2
```

Report No: 4
Report Name: Write a Program to Put Even & Odd Elements of an Array in 2 Separate Arrays.
Code:

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

int main()
{
   int i, even = 0, odd = 0, size;

   cout << "Enter size of the array: ";
   cin >> size;
   int myArray[size];
   int evenArray[size];
   int oddArray[size];

   for (i = 0; i < size; i++)
   {
      cout << "\nEnter " << (i + 1) << " elements: ";
      cin >> myArray[i];
   }

   for (i = 0; i < size; i++)
   {
      if (myArray[i] % 2 == 0){
         evenArray[even] = myArray[i];
         even++;
      }else{
         oddArray[odd] = myArray[i];
         odd++;
      }
   }
   cout << "Even Array: ";
   for (i = 0; i < even; i++)
   {
      cout << evenArray[i] << " ";
   }
   cout << "Odd Array: ";
   for (i = 0; i < odd; i++)
   {
      cout << oddArray[i] << " ";
   }

   return 0;
}
```

OutPut:

```
Enter size of the array: 4

Enter 1 elements: 1
Enter 2 elements: 6
Enter 3 elements: 5
Enter 4 elements: 9

Even Array: 6 Odd Array: 1 5 9
```

Report No: 5

Report Name: Write a program to read an array and insert an element in first and last position

Code:

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

int main()
{
   int i, even = 0, odd = 0, size;

   cout << "Enter size of the array: ";
   cin >> size;
   int myArray[size];

   for (i = 0; i < size; i++)
   {
      cout << "\nEnter " << (i + 1) << " elements: ";
      cin >> myArray[i];
   }
   cout << "Previous Array: ";
   for (i = 0; i < size; i++)
   {
      cout << myArray[i] << " ";
   }
   for (i = 0; i < size; i++)
   {
      if(i == 0){
         cout << "\nEnter " << (i + 1) << " elements: ";
         cin >> myArray[i];
      }
      if(i == (size -1)){
         cout << "\nEnter " << (i + 1) << " elements: ";
         cin >> myArray[size -1];
      }
   }
```

```
   cout << "New Array: ";
   for (i = 0; i < size; i++)
   {
      cout << myArray[i] <<" ";
   }

   return 0;
}
```

OutPut:

```
Enter size of the array: 5

Enter 1 elements: 1
Enter 2 elements: 2
Enter 3 elements: 3
Enter 4 elements: 4
Enter 5 elements: 5

Previous Array: 1 2 3 4 5
Enter 1 elements: 15

Enter 5 elements: 30
New Array: 15 2 3 4 30
```