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Roll No. 20106

Lab 2

1.

```
opsLab > 2 > C++ 1.cpp > main()
1  #include<iostream>
2  using namespace std;
3  int main(){
4      //Name:Akshat Khosya
5      //Roll:20106
6      int n,max;
7      cout<<"Enter the length of an array:"<<endl;
8      cin>>n;
9      int a[n];
10     for (int i = 0; i < n; i++)
11     {
12
13         cin>>a[i];
14
15     }
16     max=a[0];
17     for (int i = 0; i < n; i++)
18     {
19         if (max<a[i])
20         {
21             max=a[i];
22         }
23     }
24     cout<<"maximum value:"<<max;
25
26     return 0;
27 }
28 }
```

```
akshat@VivoBook:~/Documents/C_plus_plus/opsLab/2$ g++ 1.cpp
akshat@VivoBook:~/Documents/C_plus_plus/opsLab/2$ ./a.out
Enter the length of an array:
4
2 4 6 7
maximum value:7akshat@VivoBook:~/Documents/C_plus_plus/opsLab/2$
```

2.

```
C++ 1.cpp U C++ 2.cpp U x C++ 3.cpp U C++ 4.cpp U C++ 5.cp
oppsLab > 2 > C++ 2.cpp > main()
1  #include<iostream>
2  using namespace std;
3  int main(){
4      //Name:Akshat Khosya
5      //Roll:20106
6      int n;
7      cout<<"Enter the number:"<<endl;
8      cin>>n;
9
10     if (n%2==0)
11     {
12         cout<<"it is even";
13     }
14     else
15     cout<<"it is odd";
16     return 0;
17 }
```

```
maximum value:7akshat@VivoBook:~/Documents/C_plus_plus/oppsLa
akshat@VivoBook:~/Documents/C_plus_plus/oppsLab/2$ ./a.out
Enter the number:
6
it is evenakshat@VivoBook:~/Documents/C_plus_plus/oppsLab/2$
```

3.

```
cpp U  C++ prefixZeros.cpp U  C++ avoidContact.cpp U  C++ evmHacking.cpp U  C++ antiPalindrome.cpp U  C++
oppsLab > 2 > C++ 3.cpp > main()
1  #include <iostream>
2  #include <cmath>
3  using namespace std;
4  int main()
5  {
6      //Name:Akshat Khosya
7      //Roll:20106
8      double a, b, c, r1, r2, d;
9
10     cout << "Enter an coeffiecient of quadratic equation a,b,c respectively:" << endl;
11
12     cin >> a >> b >> c;
13     d = ((b * b) - (4 * a * c));
14     r1 = (-b + sqrt(d)) / 2 * a;
15     r2 = (-b - sqrt(d)) / 2 * a;
16
17     cout << "root1:" << r1 << endl;
18     cout << "root2:" << r2 << endl;
19
20     return 0;
21 }
```

```
akshat@VivoBook:~/Documents/C_plus_plus/oppsLab/2$ ./a.out
Enter an coeffiecient of quadratic equation a,b,c respectively:
1
-4
2
root1:3.41421
root2:0.585786
```

n

4.

```
#include <iostream>
using namespace std;
class vote
{
int count[5] = {0}, spoilt = 0;

public:
vote()
{
cout << "enter 1 for candidate 1" << endl;
cout << "enter 2 for candidate 2" << endl;
cout << "enter 3 for candidate 3" << endl;
cout << "enter 4 for candidate 4" << endl;
cout << "enter 5 for candidate 5" << endl;
}
void voting()
{
int vote;
cout << "give your vote:";
```

```

cin >> vote;
if (vote <= 5 && vote >= 1)
{
count[vote - 1]++;
}
else
{
spoilt++;
}
}
void results()
{
for (int i = 0; i < 5; i++)
{
cout << "votes for candidate" << i + 1 << " : " << count[i] << endl;
}
cout << "spoilt ballots votes : " << spoilt << endl;
}
};

int main()
{
//Name:Akshat Khosya
//Roll:20106
char c;
vote e;
do
{
e.voting();
cout << "want to vote? (y/n)" << endl;
cin >> c;
} while (toupper(c) == 'Y');
e.results();

return 0;
}

```

```

akshat@VivoBook:~/Documents/C_plus_plus/oppsLab/2$ ./a.out
enter 1 for candidate 1
enter 2 for candidate 2
enter 3 for candidate 3
enter 4 for candidate 4
enter 5 for candidate 5
give your vote:4
want to vote? (y/n)
y
give your vote:4
want to vote? (y/n)
n
votes for candidate1 :0
votes for candidate2 :0
votes for candidate3 :0
votes for candidate4 :2
votes for candidate5 :0
spoilt ballots votes :0
akshat@VivoBook:~/Documents/C_plus_plus/oppsLab/2$

```

5.

```

C++ avoidContact.cpp U C++ evmHacking.cpp U C++ antiPalindrome.cpp U C++ 1.cpp
oppsLab > 2 > C++ 5.cpp > main()
1  #include <iostream>
2  using namespace std;
3  int main()
4  {
5      //Name:Akshat Khosya
6      //Roll:20106
7      int n, sum = 0;
8
9      cout << "Enter the number:" << endl;
10     cin >> n;
11
12     for (int i = 1; i <= n; i++)
13     {
14         sum = sum + i;
15     }
16
17     cout << "Sum of natural numbers:" << sum << endl;
18
19     return 0;
20 }

```

```

akshat@VivoBook:~/Documents/C_plus_plus/oppsLab/2$ g++ 5.cpp
akshat@VivoBook:~/Documents/C_plus_plus/oppsLab/2$ ./a.out
Enter the number:
4
Sum of natural numbers:10
akshat@VivoBook:~/Documents/C_plus_plus/oppsLab/2$

```

6.

```

oppsLab > 2 > C++ 6.cpp > main()
1  #include <iostream>
2  #include <cmath>
3  using namespace std;
4  int main()
5  {
6      //Name:Akshat Khosya
7
8      //Roll:20106
9
10     int num, f, count = 0, d, sum = 0;
11     cout << "Enter the number:" << endl;
12     cin >> num;
13     d = num;
14     while (d > 0)
15     {
16         count++;
17         d = d / 10;
18     }
19
20     while (num > 0)
21     {
22         if (num < 10)
23         {
24             f = num;
25         }
26         else
27         {
28             f = num % 10;
29         }
30
31         sum = sum + f * pow(10, count - 1);
32         count--;
33         num = num / 10;
34     }
35
36     cout << "reverse number is :" << sum;
37     return 0;
38 }

```

```

akshat@VivoBook:~/Documents/C_plus_plus/oppLab/2$
Enter the number:
567
reverse number is :765
akshat@VivoBook:~/Documents/C_plus_plus/oppLab/2$

```

7.

```

oppLab > 2 > C++ 7.cpp > main()
1  #include <iostream>
2  using namespace std;
3  int main()
4  {
5      //Name:Akshat Khosya
6      //Roll:20106
7      int n;
8      cout << "Enter the length of an array:" << endl;
9      cin >> n;
10     int a[n], e[n], o[n], index1 = 0, index2 = 0;
11     for (int i = 0; i < n; i++)
12     {
13         cin >> a[i];
14         if (a[i] % 2 == 0)
15         {
16             e[index1] = a[i];
17             index1++;
18         }
19         else
20         {
21             o[index2] = a[i];
22             index2++;
23         }
24     }
25     cout << "even array:" << endl;
26     for (int i = 0; i < index1; i++)
27     {
28         cout << e[i] << " ";
29     }
30     cout << " \n"
31     << "odd array:" << endl;
32     for (int i = 0; i < index2; i++)
33     {
34         cout << o[i] << " ";
35     }
36
37     return 0;
38 }
39

```

```

akshat@VivoBook:~/Documents/C_plus_plus/oppLab/2$ ./a.out
Enter the length of an array:
4
1 2 3 4
even array:
2 4
odd array:
1 3 akshat@VivoBook:~/Documents/C_plus_plus/oppLab/2$

```