

# OOP LAB 4

Name Sajid Islam	Lab Instructor Muhammad Qasim	Section 2D
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## Q1 Code

```
1  #include <iostream>
2  using namespace std;
3
4  class MaxValue {
5  public:
6      int maxval;
7
8      MaxValue(int a, int b);
9      MaxValue(int a, int b, int c);
10 };
11
12
13 MaxValue::MaxValue(int a, int b) {
14     maxval = (a > b) ? a : b;
15 }
16
17
18 MaxValue::MaxValue(int a, int b, int c) {
19     if (a > b && a > c) {
20         maxval = a;
21     } else if (b > a && b > c) {
22         maxval = b;
23     } else {
24         maxval = c;
25     }
26 }
27
28 int main() {
29     MaxValue m1(20, 40);
30     cout << "Max value (2 numbers) " << m1.maxval << endl;
31
32     MaxValue m2(20, 30, 50);
33     cout << "Max value (3 numbers) " << m2.maxval << endl;
34
35     return 0;
36 }
37
```

## Q1 Output

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```
D:\PROGRAMMING\SEMESTER 2\SEM -2 Lab Assesmemts\LAB 4\Q1.exe
Max value (2 numbers) 40
Max value (3 numbers) 50

-----
Process exited after 0.2174 seconds with return value 0
Press any key to continue . . .
```

## Q2 Code

```
1  #include <iostream>
2  using namespace std ;
3
4  class toolbooth{
5      public:
6
7      int unsigned Totalcars;
8      double Totalcollection ;
9
10     toolbooth (){
11         Totalcars=0;
12         Totalcollection=0;
13     }
14
15     void payingcar(){
16         Totalcars++;
17         Totalcollection = Totalcollection + 0.50;
18     }
19
20     void nopaycar(){
21         Totalcars++;
22     }
23 }
```

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```
24 | void display() const {
25 |     cout<<"Total cars "<<Totalcars<<endl;
26 |     cout<<"Total Collection "<<Totalcollection<<endl;
27 | }
28 | };
29 |
30 |
31 | int main(int argc, char** argv) {
32 |     toolbooth obj1;
33 |     cout<<"Enter p for paying car"<<endl<<"Enter N for non paying car "<<endl;
34 |     cout<<"Enter e for total balance "<<endl;
35 |     char option;
36 |
37 |
38 |
39 |     while (true){
40 |         cin>>option;
41 |         if (option == 'p') {
42 |
43 |             obj1.payingcar();
44 |
45 |         }
46 |         else if (option=='n'){
47 |
48 |             else if (option=='n'){
49 |                 obj1.nopaycar();
50 |
51 |             }
52 |
53 |             else if (option == 'e'){
54 |                 break;
55 |             }
56 |
57 |             obj1.display();
58 |
59 |
60 |
61 |
62 |
63 |
64 |
65 |
66 |     return 0;
67 | }
```

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## Q2 output

```
D:\PROGRAMMING\SEMESTER 2\SEM -2 Lab Assesmemts\LAB 4\Q2.exe
Enter p for paying car
Enter N for non paying car
Enter e for total balance
p
p
p
p
n
nn
e
Total cars 7
Total Collection 2
-----
Process exited after 10.61 seconds with return value 0
Press any key to continue . . .
```

## Q3 code

```
1  #include <iostream>
2  using namespace std;
3
4  class BankAccount {
5      string AccountNumber;
6      string AccountHolder;
7      double StoreBalance;
8      static double interestRate;
9      double interest;
10
11  public:
12
13      BankAccount() {
14          AccountNumber = "N/A";
15          AccountHolder = "Unknown";
16          StoreBalance = 0.0;
17      }
18
19
20      BankAccount(string Number, string Name, double Balance) {
```

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```
20 BankAccount(string Number, string Name, double Balance) {
21     AccountNumber = Number;
22     AccountHolder = Name;
23     StoreBalance = Balance;
24     interestRate = 5;
25 }
26
27
28 ~BankAccount() {
29     cout << AccountNumber << " Account is closed" << endl;
30 }
31
32
33 void Deposit(double Amount) {
34     StoreBalance = StoreBalance + Amount;
35     cout << "Your new balance is " << StoreBalance << endl;
36 }
37
38
```

```
37
38
39 void Withdraw(int WithdrawAmount) {
40     if (WithdrawAmount > StoreBalance) {
41         cout << "Insufficient Balance" << endl;
42     } else {
43         StoreBalance = StoreBalance - WithdrawAmount;
44         cout << "Your new balance is " << StoreBalance << endl;
45     }
46 }
47
48
49 void CalculateInterest() {
50     interest = (StoreBalance / 100) * interestRate;
51 }
52
53
54 void Display() {
55     cout << "Account Number: " << AccountNumber << endl;
56     cout << "Account Holder: " << AccountHolder << endl;
```

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```
57         cout << "Account Balance: " << StoreBalance << endl;
58         cout << "Interest Rate: " << interestRate << "%" << endl;
59         cout << "Interest Amount: " << interest << endl;
60     }
61 };
62
63
64 double BankAccount::interestRate = 5.0;
65
66 int main() {
67     BankAccount obj1("0745", "Sajid", 1000.0);
68     obj1.Deposit(500);
69     obj1.Withdraw(300);
70     obj1.CalculateInterest();
71     obj1.Display();
72
73
74     BankAccount obj2("0845", "Ahmad", 7000.0);
```

```
74     BankAccount obj2("0845", "Ahmad", 7000.0);
75
76
77     obj2.Deposit(8500);
78     obj2.Withdraw(1300);
79     obj2.CalculateInterest();
80     obj2.Display();
81     return 0;
82 }
83
```

Q3 output

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```
9 D:\PROGRAMMING\SEMESTER 2\SEM -2 Lab Assesmemts\LAB 4\Q3.exe
Your new balance is 1500
Your new balance is 1200
Account Number: 0745
Account Holder: Sajid
Account Balance: 1200
Interest Rate: 5%
Interest Amount: 60
Your new balance is 15500
Your new balance is 14200
Account Number: 0845
Account Holder: Ahmad
Account Balance: 14200
Interest Rate: 5%
Interest Amount: 710
0845 Account is closed
0745 Account is closed

-----
Process exited after 0.2195 seconds with return value 0
Press any key to continue . . .
```