

Lab2 - Chapter 3

Decision Structure and Boolean Logic

Total Marks is 52 – (2 marks are bonus)

Q1 [22 marks]- Consider the following program that given a name prompts an appropriate message to the user accordingly.

```
1  #include <iostream>
2  using namespace std;
3  int main() {
4      string name;
5      cout << "Enter a name : ";
6      cin >> name;
7
8      if (name[0].isupper())
9          cout << "\n" << name << " has right format! ";
10     if (size(name) < 5);
11         cout << "\n" << name << " is short !" ;
12     else
13         cout << "\n" << name << " is long !" ;
14
15     return 0;
16 }
```

Find all the errors in the above program, and list them in the following table. You can add more rows if you wish at the end of table.

Line of error	Type of error	Modified line(s)

Q2 [30 marks]- (*Algebra: solve 2×2 linear equations*) You can use Cramer's rule to solve the following 2×2 system of linear equation:

$$ax + by = e$$

$$cx + dy = f$$

$$x = (ed - bf) / (ad - bc)$$

$$y = (af - ec) / (ad - bc)$$

Write a program that prompts the user to enter a, b, c, d, e and f and displays the result. If $ad - bc$ is 0, report that "The equation has no solution".

Sample Run 1

Enter a, b, c, d, e, f: 9.0 4.0 3.0 -5.0 -6.0 -21.0

x is -2 and y is 3

Sample Run 2

Enter a, b, c, d, e, f: 1.0 2.0 2.0 4.0 4.0 5.0

The equation has no solution

Submission

Please list the name of all the members of your group in your submission file and only submit one version.

Please submit a pdf file named **Lab2.pdf** to BB by due time. If you submit any other files such as .zip, .doc, .txt, etc. you will be marked as zero. If you have spent lots of time to finish this assignment please submit it properly.