



Lab Assignment

Computer Systems and Programming

Lab Manual 2 Lab Task

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Class: ME-15 C



Question 1

1. Write a program that determines if a person is eligible to vote based on their age (e.g., 18 years or older) using logical operators.

```
1  #include <iostream>
2
3  using namespace std;
4
5  int main() {
6      int age;
7      cout << "enter your age" << endl;
8      cin >> age;
9      if (age >= 18) {
10         cout << "You are eligible to vote" << endl;
11     } else {
12         cout << "You are not eligible to vote" << endl;
13     }
14     return 0;
15 }
16
```

```
enter your age
16
You are not eligible to vote
```

```
Process returned 0 (0x0)    execution time : 2.386 s
Press any key to continue.
```

```
enter your age
23
You are eligible to vote
```

```
Process returned 0 (0x0)    execution time : 1.970 s
Press any key to continue.
```

Question 2

2. Write a program that takes an integer as input and checks if it falls within the range [10, 50] using logical operators.

```
1  #include <iostream>
2
3  using namespace std;
4
5  int main() {
6      int x;
7      cout << "enter your number" << endl;
8      cin >> x;
9      if (x>=10 && x<=50) {
10         cout << "your number lies in the range [10,50]" << endl;
11     } else { cout << "your number does not lie in the range" << endl;
12     }
13     return 0;
14 }
15
```

```
enter your number
24
your number lies in the range [10,50]

Process returned 0 (0x0)    execution time : 4.396 s
Press any key to continue.
|
```

```
enter your number
76
your number does not lie in the range

Process returned 0 (0x0)    execution time : 1.728 s
Press any key to continue.
|
```

Question 3

3. Write a C++ program to compare two integers and find the maximum value.

```
1  #include <iostream>
2
3  using namespace std;
4
5  int main() {
6      int a,b;
7      cout << "enter value for a" << endl;
8      cin >> a;
9      cout << "enter value for b" << endl;
10     cin >> b;
11     if (a>b) cout << "a is larger than b" << endl;
12     else cout << "b is larger than a" << endl;
13     return 0;
14 }
15
```

```
enter value for a
5
enter value for b
8
b is larger than a
```

```
Process returned 0 (0x0)    execution time : 3.049 s
Press any key to continue.
|
```

```
enter value for a
5
enter value for b
3
a is larger than b
```

```
Process returned 0 (0x0)    execution time : 2.177 s
Press any key to continue.
|
```

Question 4

4. Write a C++ program to calculate the average of three exam scores and determine if it's above a passing grade (e.g., average ≥ 60).

```
1  #include <iostream>
2
3  using namespace std;
4
5  int main() {
6      float a,b,c,d;
7      cout << "enter your first exam score" << endl;
8      cin >> a;
9      cout << "enter your second exam score" << endl;
10     cin >> b;
11     cout << "enter your third exam score" << endl;
12     cin >> c;
13     d=(a+b+c)/3;
14     cout << "Your average score of three exams is:" << d << endl;
15     if (d>=60) cout << "your average score is above the passing grade" << endl;
16     else cout << "your average score is less than the passing grade" << endl;
17     return 0;
18 }
19
```

```
enter your first exam score
47
enter your second exam score
75
enter your third exam score
81
Your average score of three exams is:67.6667
your average score is above the passing grade

Process returned 0 (0x0)    execution time : 5.901 s
Press any key to continue.
```

```
enter your first exam score
32
enter your second exam score
55
enter your third exam score
73
Your average score of three exams is:53.3333
your average score is less than the passing grade

Process returned 0 (0x0)    execution time : 8.043 s
Press any key to continue.
```