School Of Mechanical & Manufacturing Engineering, NUST

Department of Mechanical Engineering

CS-114 - Fundamental of Programing

Lab Report # 02

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DATE:

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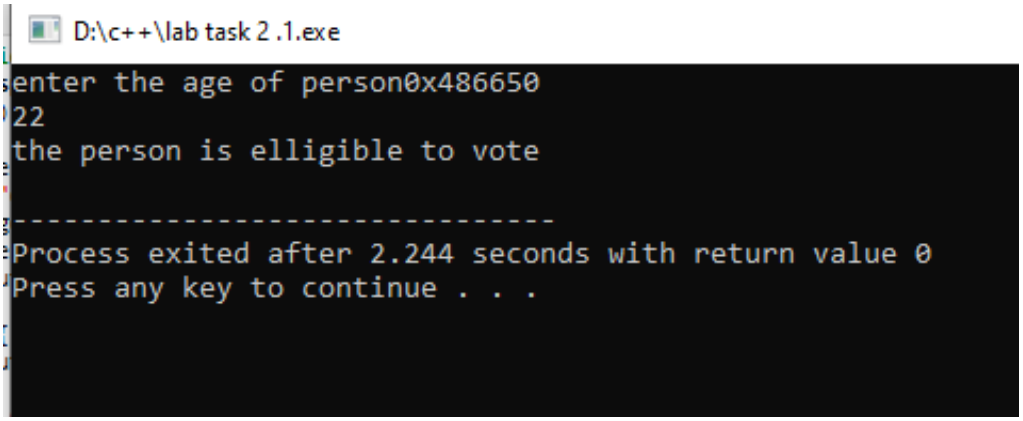
1. Write a program that determines if a person is eligible to vote based on their age (e.g., 18 years or older) using logical operators.

Code

```cpp
#include <iostream>
using namespace std;
int main ()
{
    int age;
    cout<<"enter the age of person"<<cin<<endl;
    cin>>age;
    if (age>=18) {
        cout<<"the person is elligible to vote " <<endl;
    }
    else  {
        cout<<"the person is not elligible to vote"<<endl;
    }
    return 0;
}
```

Output



Learning outcomes

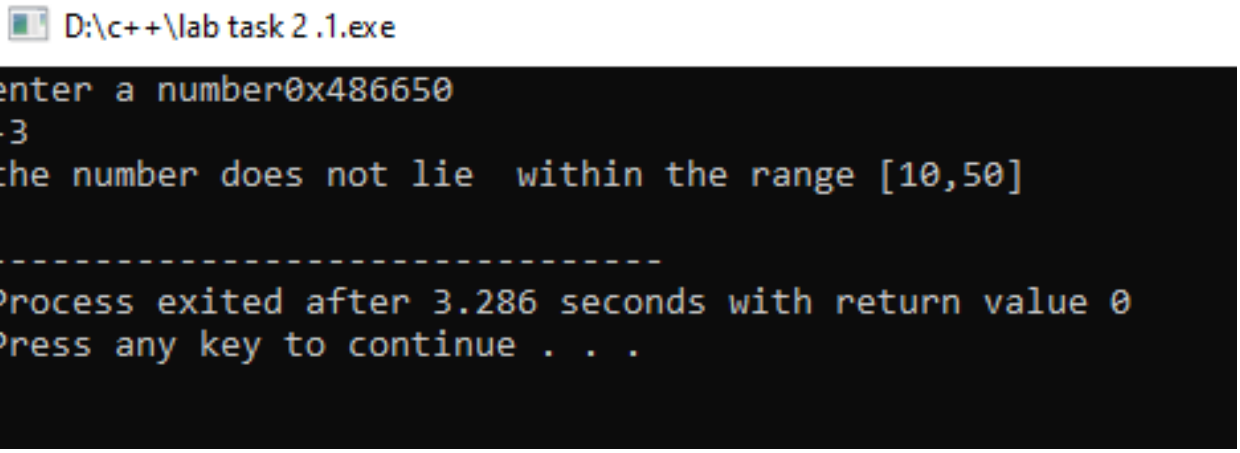
- Learn to use relational operators
- Learn the use of >= sign

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

Code

```
#include <iostream>
using namespace std;
int main ()
{
    int no;
    cout<<"enter a number"<<cin<<endl;
    cin>>no;
    if (no>=10&&no<=50) {
        cout<<"the number lies within the range [10,50] " <<endl;
    }
    else  {
        cout<<"the number does not lie  within the range [10,50]" <<endl;
    }
    return 0;
}
```

Output



Learning outcomes

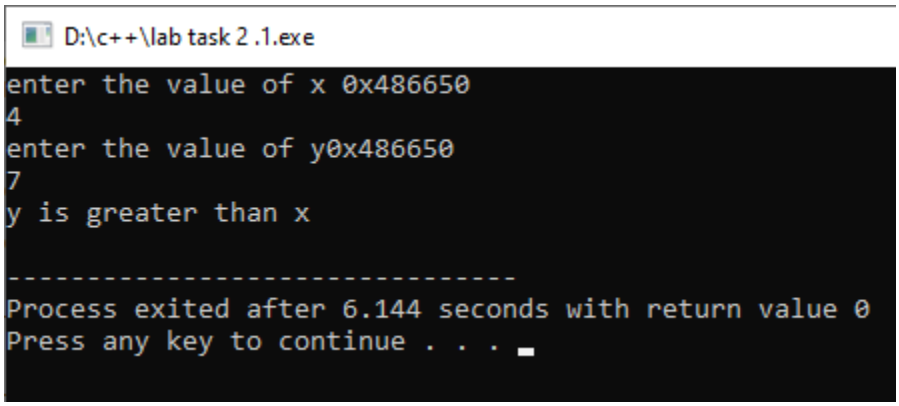
- Learn to write programmes involving ranges.
- Learn to use && operations .

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

Code

```cpp
#include <iostream>
using namespace std;
int main ()
{
    int x,y;
    cout<<"enter the value of x "<<cin<<endl;
    cin>>x;
    cout<<"enter the value of y"<<cin<<endl;
    cin>>y;
    if (x>y) {
        cout<<"x is greater than y " <<endl;
    }
    else if (y>x)  {
        cout<<"y is greater than x" <<endl;
    }
    else if (x==y) {
        cout<<"x and y are equal" <<endl;
    }
    return 0;
}
```

Output



Learning outcomes

- Compare two numbers
- Learn to use else if statements

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).

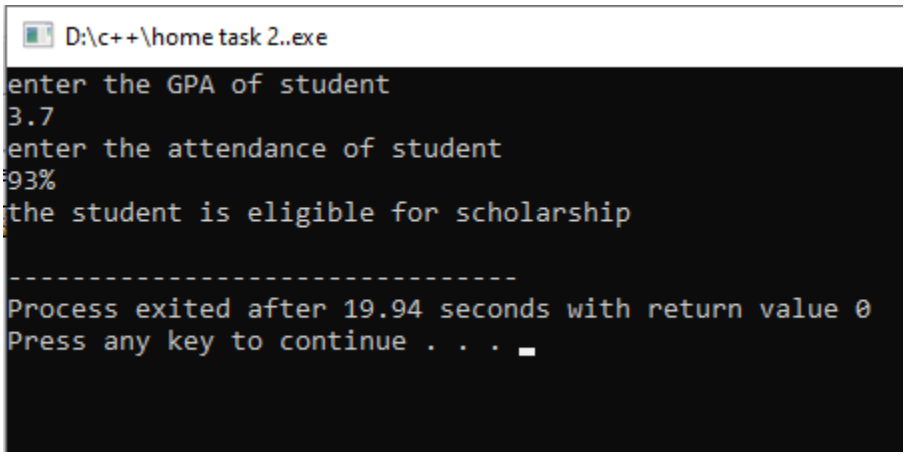
Code

scholarship.cpp

```cpp
#include <iostream>
using namespace std;
int main()
{
    float g , a;
    cout<<"enter the GPA of student "<<endl;
    cin>>g;
    cout<<"enter the attendance of student   " <<endl;
    cin>>a;
    if (g>=3.5&&a>=80) {
        cout<<"the student is eligible for scholarship"<<endl;
    }
    else {
        cout<<"student is not eligible for scholarship"<<endl;
    }

    return 0;
}
```

Output



Learning outcomes

- Use && operation involving 2 variables
- Using float values