
NUST

NATIONAL UNIVERSITY
OF SCIENCES & TECHNOLOGY

# Computer Programming Lab

Assignment no 2

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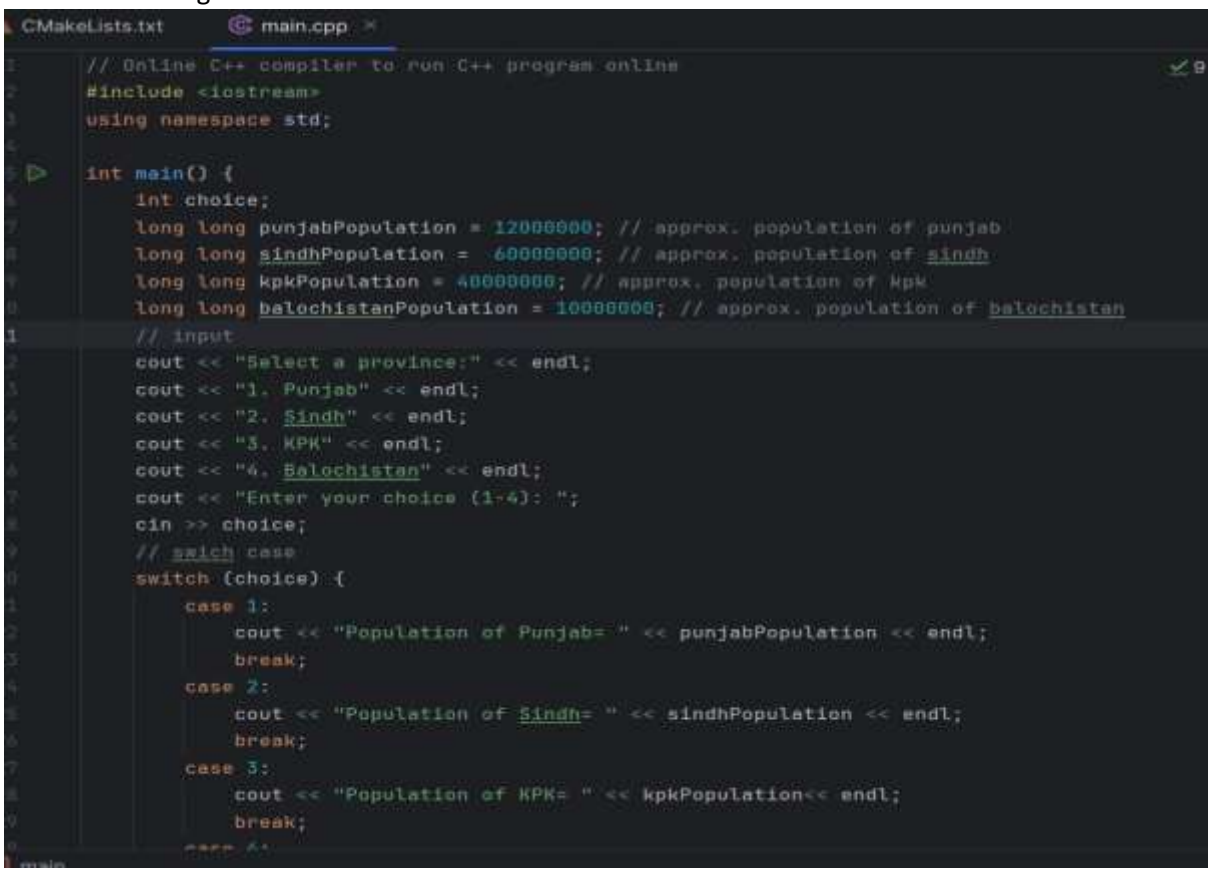
# Manuel 3

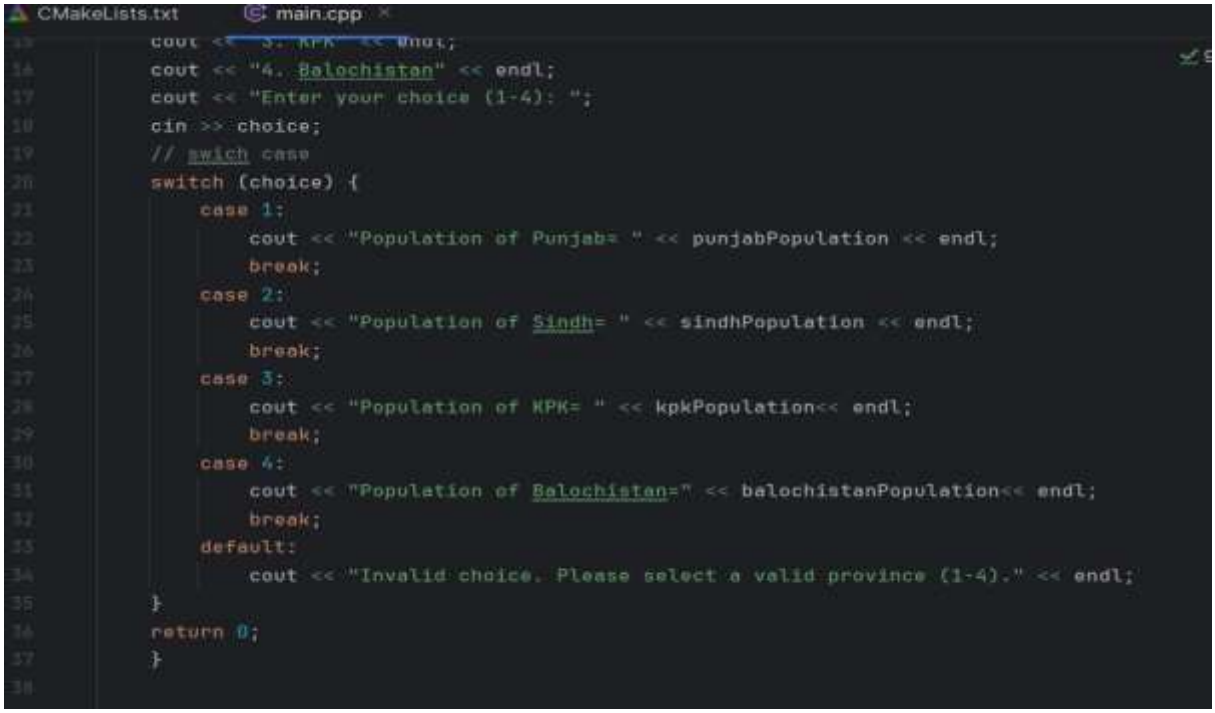
# Home tasks

1. Write a C++ program to print the total number of populations in Punjab, Sindh, KPK, and Baluchistan using a switch case.



```cpp
// Online C++ compiler to run C++ program online
#include <iostream>
using namespace std;

int main() {
    int choice;
    long long punjabPopulation = 12000000; // approx. population of punjab
    long long sindhPopulation =  60000000; // approx. population of sindh
    long long kpkPopulation = 40000000; // approx. population of kpk
    long long balochistanPopulation = 10000000; // approx. population of balochistan
    // input
    cout << "Select a province:" << endl;
    cout << "1. Punjab" << endl;
    cout << "2. Sindh" << endl;
    cout << "3. KPK" << endl;
    cout << "4. Balochistan" << endl;
    cout << "Enter your choice (1-4): ";
    cin >> choice;
    // swich case
    switch (choice) {
        case 1:
            cout << "Population of Punjab= " << punjabPopulation << endl;
            break;
        case 2:
            cout << "Population of Sindh= " << sindhPopulation << endl;
            break;
        case 3:
            cout << "Population of KPK= " << kpkPopulation<< endl;
            break;
```



```cpp
    cout << "4. Balochistan" << endl;
    cout << "Enter your choice (1-4): ";
    cin >> choice;
    // swich case
    switch (choice) {
        case 1:
            cout << "Population of Punjab= " << punjabPopulation << endl;
            break;
        case 2:
            cout << "Population of Sindh= " << sindhPopulation << endl;
            break;
        case 3:
            cout << "Population of KPK= " << kpkPopulation<< endl;
            break;
        case 4:
            cout << "Population of Balochistan=" << balochistanPopulation<< endl;
            break;
        default:
            cout << "Invalid choice. Please select a valid province (1-4)." << endl;
    }
    return 0;
    }
```

```
C:\Users\LENOVO\manuel3hometask1\cmake-build-debug\manuel3hometask1.exe
Select a province:
1. Punjab
2. Sindh
3. KPK
4. Balochistan
Enter your choice (1-4): 2
 Population of Sindh= 60000000

Process finished with exit code 0
```

2.

```cpp
#include <iostream>
using namespace std;
int main() {
    char character;
    cout<<" Enter a character = ";
    cin>>character;
    switch (character){
        case 'a':
        case 'e':
        case 'i':
        case 'o':
        case 'u':
        case 'A':
        case 'E':
        case 'I':
        case 'O':
        case 'U':
            cout<< character<<" character is vowel"<<endl;
        break;
        default:
            cout<< character<<" character is consonant"<<endl;
    }
    return 0;
}
```

```
C:\Users\LENOVO\manuel3hometask2\cmake-build-debug\manuel3hometask2.e
 Enter a character = v
 v character is consonant

Process finished with exit code 0
```

3. Write a C++ program to check whether a number is positive, negative, or zero using a switch case.

```cpp
#include <iostream>
using namespace std;

int main() {
    int number;

    // Input
    cout << "Enter a number= ";
    cin >> number;

    // Checking whether the number is positive, negative, or zero using a switch statement
    switch (number > 0) {
        case true:
            cout << "The number is positive.";
            break;
        case false:
            switch (number < 0) {
                case true:
                    cout << "The number is negative.";
                    break;
                case false:
                    cout << "The number is zero.";
                    break;
            }
            break;
    }

    return 0;
```

```
C:\Users\LENOVO\manuel3hometask3\cmake-build-debug\manuel3hometask3.exe
Enter a number= 5
 The number is positive.
Process finished with exit code 0
```

4. Write a C++ to find out whether a person is an adult, teenager, or child using nested if-else.

```cpp
#include <iostream>
using namespace std;

int main() {
    int age;

    // Input
    cout << "Enter your age = ";
    cin >> age;

    // Checking  if the person is an adult, teenager, or child
    if (age >= 18) {
        cout << "You are an adult.";
    }
    else {
        if (age >= 13) {
            cout << "You are a teenager.";
        } else {
            cout << "You are a child.";
        }
    }

    return 0;
}
```

```
C:\Users\LENOVO\manuel3hometask4\cmake-build-debug\manuel3hometask4.exe
Enter your age = 13
 You are a teenager.
Process finished with exit code 0
```

5. Write a C++ program that takes three number from the user and find the greatest number out of the three numbers using nested if-else statements.

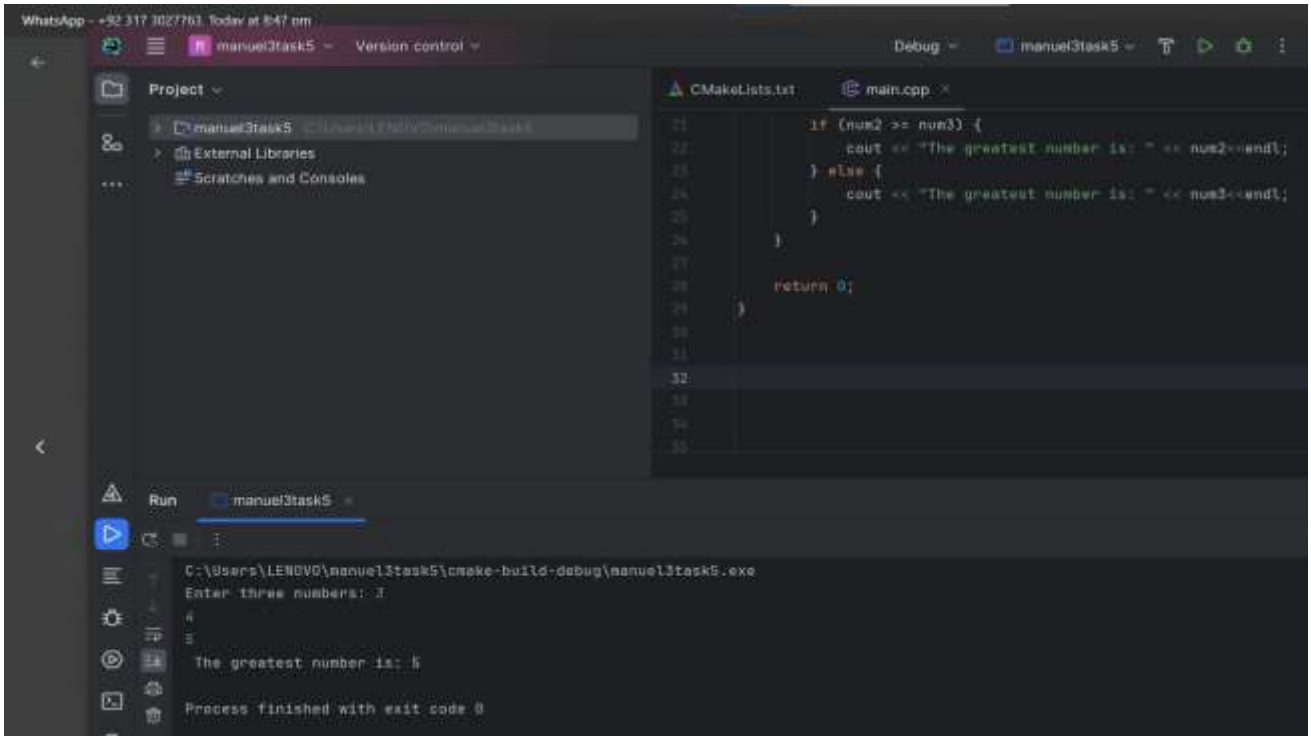
```cpp
#include <iostream>
using namespace std;

int main() {
    double num1, num2, num3;

    // Input
    cout << "Enter three numbers: ";
    cin >> num1 >> num2 >> num3;

    // Checking and find the greatest number
    if (num1 >= num2) {
        if (num1 >= num3) {
            cout << "The greatest number is: " << num1<<endl;
        }
        else {
            cout << "The greatest number is: " << num3<<endl;
        }
    }
    else {
        if (num2 >= num3) {
            cout << "The greatest number is: " << num2<<endl;
        } else {
            cout << "The greatest number is: " << num3<<endl;
        }
    }

    return 0;
```


WhatsApp – +92 317 3027761 Today at 8:47 pm
manuel3task5
Version control
Debug
manuel3task5
Project
manuel3task5
External Libraries
Scratches and Consoles
CMakeLists.txt
main.cpp
if (num2 >= num3) {
cout << "The greatest number is: " << num2<<endl;
} else {
cout << "The greatest number is: " << num3<<endl;
}
}
return 0;
}
Run
manuel3task5
C:\Users\LENOVO\manuel3task5\cmake-build-debug\manuel3task5.exe
Enter three numbers: 3
4
5
The greatest number is: 5
Process finished with exit code 0

6. Write a C++ program to check whether the alphabet entered by the user is Vowel or Consonant using nested if-else.

```cpp
#include <iostream>
using namespace std;

int main() {
    char ch;

    cout << "Enter an alphabet: "; // alphabets in lower case
    cin >> ch;
  // nested if -else statement
    if (ch >= 'a' && ch <= 'z') {
        if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {
            cout << ch << " is a vowel." << endl;
        }
        else {
            cout << ch << " is a consonant." << endl;
        }
    }
    else {
        cout << "Invalid input. Please enter an alphabet." << endl;
    }

    return 0;
}
```