LAB MANUAL 3

Home Task

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Q1: Write a C++ program to print the total number of populations in Punjab, Sindh, KPK, and Baluchistan using a switch case.

```cpp
#include <iostream>
using namespace std;
int main()
{
    int province;
    cout<<"ENTER PROVINCE KEY e.g. \nPUNJAB:1\nSINDH:2\nKPK:3\nBALOCHISTAN:4"<<endl;
    cin >> province;
    switch (province) {
        case 1:
            cout << "Population in Punjab: 109,989,655";
            break;
        case 2:
            cout << "Population in Sindh: 47,854,510";
            break;
        case 3:
            cout << "Population in KPK: 30,508,920";
            break;
        case 4:
            cout << "Population in Balochistan: 12,335,129";
            break;
    }
    return 0;
}

```

Q2: Write a C++ program to check whether an alphabet is a vowel or consonant using a switch case.

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

int main() {
    char ch;


    cout << "Enter an alphabet: ";
    cin >> ch;


    ch = tolower(ch);

    if ((ch >= 'a' && ch <= 'z'))
    {
        switch (ch)
        {
            case 'a':
            case 'e':
            case 'i':
            case 'o':
            case 'u':
                cout << ch << " is a vowel" << endl;
                break;
            default:
                cout << ch << " is a consonant" << endl;
        }
    }
    else
    {
        cout << "Invalid input. Please enter an alphabet." << endl;
    }

    return 0;
}


```

Q3: 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;

    cout << "Enter a number: ";
    cin >> number;

    switch (1) {
        case 1:
            if (number > 0) {
                cout << "Positive number." << endl;
                break;
            }
            if (number < 0) {
                cout << "Negative number." << endl;
                break;
            }
            cout << "Zero." << endl;
            break;
    }

    return 0;
}

```

Q4: 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;

    cout << "Enter the person's age: ";
    cin >> age;

    if (age >= 18)
    {
        cout << "The person is an adult." << endl;
    }
    else
    {
        if (age >= 13)
        {
            cout << "The person is a teenager." << endl;
        } else
        {
            cout << "The person is a child." << endl;
        }
    }

    return 0;
}

```

Q5: 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;


    cout << "Enter the first number: ";
    cin >> num1;
    cout << "Enter the second number: ";
    cin >> num2;
    cout << "Enter the third number: ";
    cin >> num3;


    if (num1 >= num2)
    {
        if (num1 >= num3)
        {
            cout << "The maximum number is: " << num1 << endl;
        }
        else
        {
            cout << "The maximum number is: " << num3 << endl;
        }
    }
    else
    {
        if (num2 >= num3)
        {
            cout << "The maximum number is: " << num2 << endl;
        }
        else
        {
            cout << "The maximum number is: " << num3 << endl;
        }
    }

    return 0;
}

```

Q6. 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 letter;

    cout << "Enter a letter: ";
    cin >> letter;

    if ((letter >= 'a' && letter <= 'z') || (letter >= 'A' && letter <= 'Z'))
    {
        if (letter == 'a' || letter == 'e' || letter == 'i' || letter == 'o' || letter == 'u' ||
            letter == 'A' || letter == 'E' || letter == 'I' || letter == 'O' || letter == 'U')
        {
            cout << letter << " is a vowel." << endl;
        }
        else
        {
            cout << letter << " is a consonant." << endl;
        }
    }
    else
    {
        cout << "Invalid input. Please enter a letter." << endl;
    }

    return 0;
}
```