

Fundamentals of programming

Home Tasks #3

Name: Muhammad Usman Bhutto

Cms Id: 453891

Section: B

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Home task#1:

```
#include<iostream>
using namespace std;
int main()
{
    char province;
    cout<<"enter
province(s=sindh,p=punjab,b=balochistan,k=kpk,g=gilgit baltistan):";
    cin>>province;
    switch (province)
    {
        case 's':
            cout<<"population of sindh= 47.89
million"<<endl;
            break;
        case 'p':
            cout<<"population of punjab= 120
million"<<endl;
            break;
        case 'b':
            cout<<"population of balochistan= 7.8
million"<<endl;
            break;
        case 'k':
            cout<<"population of kpk= 35.53
million"<<endl;
            break;
        case 'g':
            cout<<"population of gilgit= 1.249
million"<<endl;
            break;
        default:
            cout<<"invalid input";
    }
    return 0;
}
```

Output:

```
enter province(s=sindh,p=punjab,b=balochistan,k=kpk,g=gilgit baltistan):g
population of gilgit= 1.249 million
```

```
-----
Process exited after 2.443 seconds with return value 0
Press any key to continue . . .
```

Home task #2:

```
#include<iostream>
using namespace std;
int main()
{
    char alphabet;
    cout<<"enter your aphabet:";
    cin>>alphabet;
    switch(alphabet)
    {
        case 'a':case 'e':case 'i':case 'o':case 'u':case 'A':case 'E':case
'I':case 'O':case 'U':
            cout<<"the given alphahbet is a vowel"<<endl;
            break;
        default:
            cout<<"the given alphabet is a consonant"<<endl;
            break;
    }
    return 0;
}
```

Output:

```
enter your aphabet:g
the given alphabet is a consonant
-----
Process exited after 2.426 seconds with return value 0
Press any key to continue . . .
```

Home task #3:

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

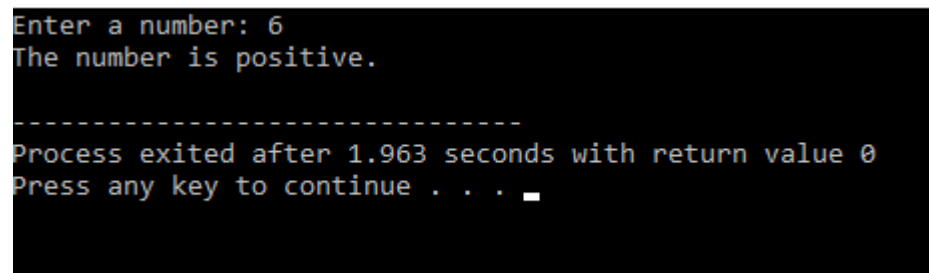
int main() {
    int number;

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

    switch (number > 0 ? 1 : (number < 0 ? -1 : 0)) {
        case 1:
            cout << "The number is positive." << endl;
            break;
        case -1:
            cout << "The number is negative." << endl;
            break;
        case 0:
            cout << "The number is zero." << endl;
            break;
    }

    return 0;
}
```

Output:

A screenshot of a terminal window with a black background and white text. The text shows the program's execution: it prompts for a number, receives '6', and outputs 'The number is positive.'. Below this, a dashed line separates the program output from the system's exit message. The exit message states the process exited after 1.963 seconds with a return value of 0 and prompts the user to press any key to continue.

```
Enter a number: 6
The number is positive.

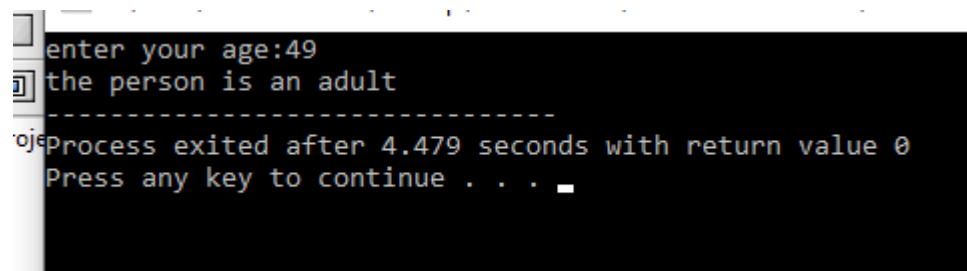
-----
Process exited after 1.963 seconds with return value 0
Press any key to continue . . .
```

Home task #4:

```
#include<iostream>
using namespace std;
int main()
{
    int age;
    cout<<"enter your age:";
    cin>>age;
    if(age>=20)
    {
        cout<<"the person is an adult";
    }
    else
    {
        if(age>=13&&age<=19)
        {
            cout<<"the person is a teenager";}
        else
        {
            cout<<"the person is a child";
        }
    }

    return 0;
}
```

Output:

A screenshot of a terminal window with a black background and white text. The text shows the program's execution: it prompts 'enter your age:', the user enters '49', and the program outputs 'the person is an adult'. Below this, a dashed line separates the output from the program's exit message: 'Process exited after 4.479 seconds with return value 0'. The prompt 'Press any key to continue . . .' is visible at the bottom, followed by a small white cursor icon.

```
enter your age:49
the person is an adult
-----
Process exited after 4.479 seconds with return value 0
Press any key to continue . . .
```

Home task #5:

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

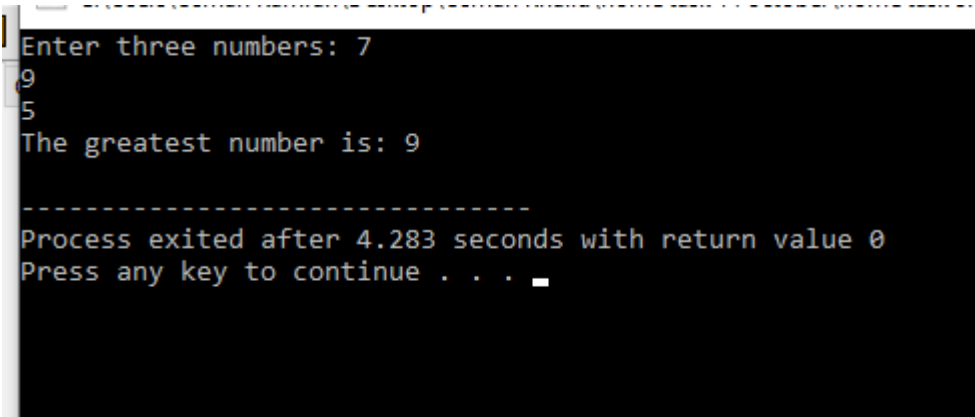
int main() {
    double num1, num2, num3;

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

    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;
}
```

Output:



```
Enter three numbers: 7
9
5
The greatest number is: 9

-----
Process exited after 4.283 seconds with return value 0
Press any key to continue . . .
```

Home task#6:

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

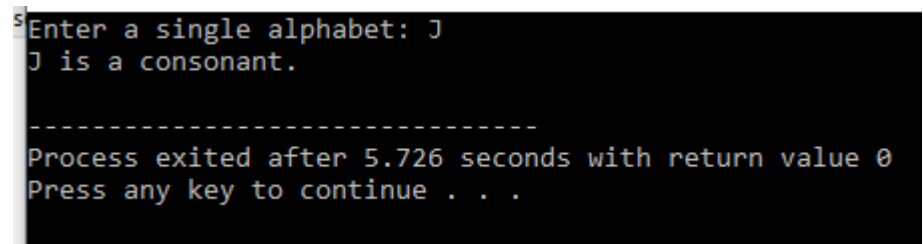
int main() {
    char ch;

    cout << "Enter a single alphabet: ";
    cin >> ch;

    if ((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z')) {
        if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u' || 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 << "You didn't enter a valid alphabet." << endl;
    }

    return 0;
}
```

Output:



```
Enter a single alphabet: J
J is a consonant.

-----
Process exited after 5.726 seconds with return value 0
Press any key to continue . . .
```