

CS & Programming Lab

Assignment 3

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Home Task #1

```
#include<iostream>

using namespace std;

int main()
{
    char a;

    cout<<"Enter the alphabet = ";

    cin>>a;

    cout<<endl;

    if (a == 'a' || a == 'e' || a == 'i' || a == 'o' || a == 'u' || a == 'A' || a == 'E'
|| a == 'I' || a == 'O' || a == 'U')
    {cout<<"The alphabet is a vowel."<<endl;}

    else

    {cout<<"The alphabet is a consonant."<<endl;}

    return 0;

}
```

```

1  #include<iostream>
2  using namespace std;
3
4  int main()
5  {
6      //Defining variable and taking inputs
7      int province;
8      cout<<"Enter 1 for Punjab\n";
9      cout<<"Enter 2 for Sindh\n";
10     cout<<"Enter 3 for KPK\n";
11     cout<<"Enter 4 for Balochistan\n"<<endl;
12     cout<<"Enter the province number = ";
13     cin>>province;
14     cout<<endl;
15
16     //Determining the output
17     switch(province)
18     {
19     case 1:
20     {cout<<"The population of Punjab is 127,474,000."<<endl;
21       break;}
22
23     case 2:
24     {cout<<"The population of Sindh is 54,858,515."<<endl;
25       break;}
26
27     case 3:
28     {cout<<"The population of KPK is 40,800,000."<<endl;
29       break;}
30
31     case 4:
32     {cout<<"The population of Balochistan is 21,700,000."<<endl;
33       break;}
34
35     default:
36     {cout<<"Invalid Input"<<endl;}}
37     return 0;
}

```

```

C:\Users\SA\Documents\Home Task # 1-3.exe

Enter 1 for Punjab
Enter 2 for Sindh
Enter 3 for KPK
Enter 4 for Balochistan

Enter the province number = 1

The population of Punjab is 127,474,000.

-----
Process exited after 2.575 seconds with return value 0
Press any key to continue . . .

```

Home Task #2

```
#include<iostream>

using namespace std;

int main()
{
    //Defining variable
    char a = 'A';

    //Assigning values
    if (a == 'a' || a == 'e' || a == 'i' || a == 'o' || a == 'u' || a == 'A' || a == 'E' || a ==
'T' || a == 'O' || a == 'U')
        a = 0;

    else
        a = 1;

    //Determining the ouput
    switch (a)
    {
```

case 0:

```
{cout<<"The alphabet is a vowel."<<endl;}
```

```
break;
```

case 1:

```
{cout<<"The alphabet is a consonant."<<endl;}
```

```
break;
```

default:

```
{cout<<"Invalid Input."<<endl;}
```

```
break;}
```

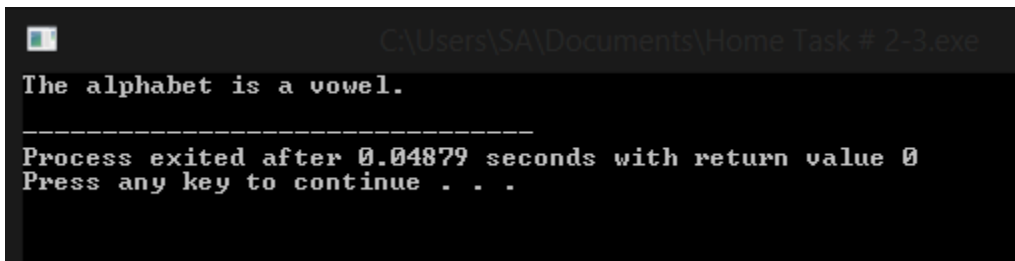
```
return 0;
```

```
}
```

```

1  #include<iostream>
2  using namespace std;
3
4  int main()
5  {
6      //Defining variable
7      char a = 'A';
8
9      //Assigning values
10     if (a == 'a' || a == 'e' || a == 'i' || a == 'o' || a == 'u' || a == 'A' || a == 'E' || a == 'I' || a == 'O' || a == 'U')
11         a = 0;
12
13     else
14         a = 1;
15
16     //Determining the output
17     switch (a)
18     {
19     case 0:
20         {cout<<"The alphabet is a vowel."<<endl;}
21         break;
22
23     case 1:
24         {cout<<"The alphabet is a consonant."<<endl;}
25         break;
26
27     default:
28         {cout<<"Invalid Input."<<endl;}
29         break;}
30
31     return 0;
32 }

```



```

C:\Users\SA\Documents\Home Task # 2-3.exe
The alphabet is a vowel.
-----
Process exited after 0.04879 seconds with return value 0
Press any key to continue . . .

```

Home Task #3

```
#include<iostream>

using namespace std;
```

```
int main()
{
    int num = 100;

    if (num > 0)
        num = 1;

    else if (num < 0)
        num = -1;

    else if (num == 0)
        num = 0;

    switch (num)
    {
        case 1:
```

```
{cout<<"The number entered is positive."<<endl;  
break;}
```

```
case -1:
```

```
{cout<<"The number entered is negative."<<endl;  
break;}
```

```
case 0:
```

```
{cout<<"The number entered is zero."<<endl;  
break;}
```

```
default:
```

```
{cout<<"Invalid Input."<<endl;}}
```

```
return 0;
```

```
}
```



```

1  #include<iostream>
2  using namespace std;
3
4  int main()
5  {
6      int num = 100;
7
8      if (num > 0)
9          num = 1;
10
11     else if (num < 0)
12         num = -1;
13
14     else if (num == 0)
15         num = 0;
16
17     switch (num)
18     {
19     case 1:
20         {cout<<"The number entered is positive."<<endl;
21         break;}
22
23     case -1:
24         {cout<<"The number entered is negative."<<endl;
25         break;}
26
27     case 0:
28         {cout<<"The number entered is zero."<<endl;
29         break;}
30
31     default:
32         {cout<<"Invalid Input."<<endl;}}
33
34     return 0;
35 }

```

CAUsers\SA\Documents\Home Task # 3-3.exe

The number entered is positive.

Process exited after 0.07428 seconds with return value 0
 Press any key to continue . . .

Home Task #4

```
#include<iostream>

using namespace std;

int main()
{
    //Defining variable
    int age = 16;

    //Determining the age group
    if (age > 0 && age < 13)
        cout<<"The person is a child."<<endl;

    else {
        if (age >= 13 && age < 20 )
            cout<<"The person is a teenager."<<endl;

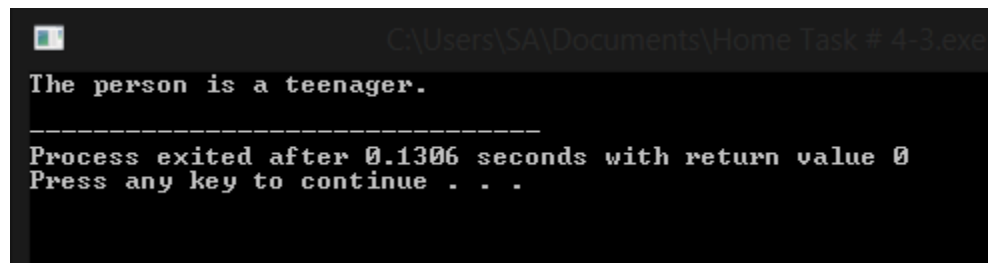
        else {
            if (age >= 20)
                {cout<<"The person is an adult."<<endl;}
```

else

cout<<"The person does not exist."<<endl;}}

}

```
1  #include<iostream>
2  using namespace std;
3
4  int main()
5  {
6      //Defining variable
7      int age = 16;
8
9      //Determining the age group
10     if (age > 0 && age < 13)
11         cout<<"The person is a child."<<endl;
12
13     else {
14         if (age >= 13 && age < 20 )
15             cout<<"The person is a teenager."<<endl;
16
17     else {
18         if (age >= 20)
19             {cout<<"The person is an adult."<<endl;}
20
21     else
22         cout<<"The person does not exist."<<endl;}}
23 }
```



```
C:\Users\SA\Documents\Home Task # 4-3.exe
The person is a teenager.
-----
Process exited after 0.1306 seconds with return value 0
Press any key to continue . . .
```

Home Task #5

```
#include<iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int x,y,z;
```

```
    cout<<"Enter the value for x,y,z"<<endl;
```

```
    cout<<"x = ";
```

```
    cin>>x;
```

```
    cout<<"y = ";
```

```
    cin>>y;
```

```
    cout<<"z = ";
```

```
    cin>>z;
```

```
    if ( (x > y && x > z) || (x == y && x > z) || (x > y && x == z) || (x  
== y && x == z))
```

```
cout<<"The greatest number is "<<x<<". "<<endl;

else {

    if ((y > x && y > z) || (y == x && y > z) || (y > x && y == z) || (y
== x && y == z))

        cout<<"The greatest number is "<<y<<". "<<endl;

    else {

        if (z > x && z > y)

            cout<<"The greatest number is "<<z<<". "<<endl;}}

    return 0;

}
```

```

1  #include<iostream>
2  using namespace std;
3
4  int main()
5  {
6      int x,y,z;
7      cout<<"Enter the value for x,y,z"<<endl;
8      cout<<"x = ";
9      cin>>x;
10     cout<<"y = ";
11     cin>>y;
12     cout<<"z = ";
13     cin>>z;
14
15     if ( (x > y && x > z) || (x == y && x > z) || (x > y && x == z) || (x == y && x == z))
16     cout<<"The greatest number is "<<x<<endl;
17
18     else {
19         if ((y > x && y > z) || (y == x && y > z) || (y > x && y == z) || (y == x && y == z))
20         cout<<"The greatest number is "<<y<<endl;
21
22     else {
23         if (z > x && z > y)
24         cout<<"The greatest number is "<<z<<endl;}}
25
26     return 0;
27 }

```

```

C:\Users\SA\Documents\Home Task # 5-3.exe
Enter the value for x,y,z
x = 5
y = 10
z = 15
The greatest number is 15.

-----
Process exited after 25.12 seconds with return value 0
Press any key to continue . . .

```

Home Task #6

```
#include<iostream>

using namespace std;

int main()
{
    char a;

    cout<<"Enter the alphabet = ";

    cin>>a;

    cout<<endl;

    if (a == 'a' || a == 'e' || a == 'i' || a == 'o' || a == 'u' || a == 'A' || a == 'E'
|| a == 'I' || a == 'O' || a == 'U')
    {cout<<"The alphabet is a vowel."<<endl;}

    else

    {cout<<"The alphabet is a consonant."<<endl;}

    return 0;

}
```

```
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     char a;
7     cout<<"Enter the alphabet = ";
8     cin>>a;
9     cout<<endl;
10
11     if (a == 'a' || a == 'e' || a == 'i' || a == 'o' || a == 'u' || a == 'A' || a == 'E' || a == 'I' || a == 'O' || a == 'U')
12     {cout<<"The alphabet is a vowel."<<endl;}
13
14     else
15     {cout<<"The alphabet is a consonant."<<endl;}
16
17     return 0;
18 }
```



C:\Users\SA\Documents\Home Task # 6-3

Enter the alphabet = a

The alphabet is a vowel.

Process exited after 2.593 seconds with return value 0
Press any key to continue . . .