

LAB 04 TASKS

Question #01) Write a C++ program that tells the user that the number entered is less than or greater than 10?

Source Code:

```
1  #include <iostream>
2  using namespace std;
3
4  int main() {
5      int number;
6
7      // Input a number
8      cout << "Enter a number: ";
9      cin >> number;
10
11     // Check if the number is less than, equal to, or greater than 10
12     if (number < 10) {
13         cout << "The number is less than 10." << endl;
14     } else if (number == 10) {
15         cout << "The number is equal to 10." << endl;
16     } else {
17         cout << "The number is greater than 10." << endl;
18     }
19
20     return 0;
21 }
```

Output:

```
Enter a number: 9
The number is less than 10.
```

```
-----
Process exited after 8.33 seconds with return value 0
Press any key to continue . . .
```

Question #02) Write a C++ program that tells the user that the number entered is even or odd?

Source Code:

```
1  #include <iostream>
2  using namespace std;
3
4  int main() {
5      int number;
6
7      // Input a number
8      cout << "Enter a number: ";
9      cin >> number;
10
11     // Check if the number is even or odd
12     if (number % 2 == 0) {
13         cout << "The number is even." << endl;
14     } else {
15         cout << "The number is odd." << endl;
16     }
17
18     return 0;
19 }
```

Output:

```
Enter a number: 10
The number is even.

-----
Process exited after 8.028 seconds with return value 0
Press any key to continue . . .
```

Question #03) Write a menu driven C++ program that ask the user to choose the type in which he wants the output?

Either he wants to convert the entered Celsius temperature in to Fahrenheit or Kelvin?

Source Code:

```
1  #include <iostream>
2  using namespace std;
3
4  int main() {
5      float celsius, fahrenheit, kelvin;
6      int choice;
7
8      // Display menu
9      cout << "Temperature Conversion Program" << endl;
10     cout << "1. Convert Celsius to Fahrenheit" << endl;
11     cout << "2. Convert Celsius to Kelvin" << endl;
12     cout << "Enter your choice (1 or 2): ";
13     cin >> choice;
14
15     // Ask the user to enter the Celsius temperature
16     cout << "Enter temperature in Celsius: ";
17     cin >> celsius;
18
19     // Use if-else to process the user's choice
20     if (choice == 1) {
21         // Convert Celsius to Fahrenheit
22         fahrenheit = (celsius * 9/5) + 32;
23         cout << "Temperature in Fahrenheit: " << fahrenheit << " Degree Fahrenheit" << endl;
24     }
25     else if (choice == 2) {
26         // Convert Celsius to Kelvin
27         kelvin = celsius + 273;
28         cout << "Temperature in Kelvin: " << kelvin << "Kelvin" << endl;
29     }
30     else {
31         cout << "Invalid choice. Please enter 1 or 2." << endl;
32     }
33
34     return 0;
35 }
```

Output:

```
Temperature Conversion Program
1. Convert Celsius to Fahrenheit
2. Convert Celsius to Kelvin
Enter your choice (1 or 2): 1
Enter temperature in Celsius: 32
Temperature in Fahrenheit: 89.6 Degree Fahrenheit

-----
Process exited after 3.487 seconds with return value 0
Press any key to continue . . .
```

Question #04) Write a program to compare following strings with each other and display which string is smaller.

```
string str1 = "Hello";  
string str2 = "Hi";  
string str3 = "Air";  
string str4 = "Bill";  
string str5 = "Big";
```

Source Code:

```
1  #include <iostream>  
2  #include <string>  
3  using namespace std;  
4  
5  int main() {  
6      // Define the strings  
7      string str1 = "Hello";  
8      string str2 = "Hi";  
9      string str3 = "Air";  
10     string str4 = "Bill";  
11     string str5 = "Big";  
12  
13     // Compare the strings and find the smallest one  
14     string smallest = str1;  
15  
16     if (str2 < smallest) {  
17         smallest = str2;  
18     }  
19     if (str3 < smallest) {  
20         smallest = str3;  
21     }  
22     if (str4 < smallest) {  
23         smallest = str4;  
24     }  
25     if (str5 < smallest) {  
26         smallest = str5;  
27     }  
28  
29     // Display the smallest string  
30     cout << "The smallest string is: " << smallest << endl;  
31  
32     return 0;  
33 }
```

Output:

```
The smallest string is: Air  
-----  
Process exited after 0.04856 seconds with return value 0  
Press any key to continue . . .
```

Question #05) According to your grading system mark the user entered numbers as Grade A, B, C, D, F?

Source Code:

```
1  #include <iostream>
2  using namespace std;
3
4  int main() {
5      int mark;
6
7      // Input the marks
8      cout << "Enter your mark: ";
9      cin >> mark;
10
11     // Assign grade based on the marks
12     if (mark >= 80) {
13         cout << "Grade: A+" << endl;
14     }
15     else if (mark >= 70) {
16         cout << "Grade: A" << endl;
17     }
18     else if (mark >= 60) {
19         cout << "Grade: B" << endl;
20     }
21     else if (mark >= 50) {
22         cout << "Grade: C" << endl;
23     }
24     else if (mark >= 40) {
25         cout << "Grade: D" << endl;
26     }
27     else {
28         cout << "Grade: F" << endl;
29     }
30
31     return 0;
32 }
```

Output:

```
Enter your mark: 69
Grade: B

-----
Process exited after 7.167 seconds with return value 0
Press any key to continue . . .
```