

Objectives

- To understand the role of each component in a computer
- To understand the purpose of an Operating System
- To understand the differences between machine language, assembly language, and high-level language
- To understand the general structure of a C++ program.
- To understand the steps to develop and run a C++ program.
- To understand how to perform input and output operations in a C++ program.
- To understand how to use “string”, “int”, and “float” data types.
- To understand the meaning of syntax errors and how to debug.

Instructions

1. The TA covers the above mentioned objectives through developing the following C++ program (this should not take more than 30 minutes). The program takes first the student’s first name, next an integer number of miles. The program converts the entered miles to kilometers. Finally, the program displays a welcome message together with the computed kilometers. (1 mile = 1.609 kilometre).

```
/* My first program in C++
```

```
My name is Ahmed
```

```
I'm a student in CSCE 1001 section 03 */
```

```
#include <iostream>
```

```
#include <string>
```

```
using namespace std;
```

```
void main()
```

```
{
```

```
// Declaration of Variables & constants
```

```
string Fname;    // First name
```

```
int miles;       // number of miles to be converted to kilometers
```

```
float kms;       // computed kilometers
```

```
const float km_per_mile = 1.609;    // a constant of how many kilometers in a mile
```

```
// Input
```

```
cout << "Please, enter your first name: ";
```

```
cin >> Fname;           // input: First Name
```

```
cout << "Please, enter the integer number of miles: ";
```

```
cin >> miles;           // input: number of miles
```

```
// Processing: convert the miles to kilometers
```

```
kms = km_per_mile * miles;
```

```
// Output
```

```
cout << "Welcome " << Fname << " to CSCE 1001 " << endl;
```

```
cout << "The distance in kilometers is " << kms << endl;
```

```
system ("pause");
```

```
}
```

2. The TA asks the students to develop a C++ program that first takes the first name of the student, next a distance as an integer number of feet to be converted to meters.. The program displays a welcome message and the distance in the computed meters (1 foot = 0.3048 meter). Each student submits a print out of his/her program to the TA to be graded. (30 minutes).