

# Assignment 2

## Reading and Exercises

- \* Read Lesson 2 (online notes)
- \* Read Chapter 2, pages 28-84 (again) and 85-94, from the textbook.

## Programming with Words

Given the following program, answer the questions below:

- How would you calculate the remainder of the division of two integers (let's call their variables *x* and *y*). Provide a C++ line which would result in the remainder of *x/y*.
- Define two variables and one constant called *first*, *second* and *third* respectively. The type of variable *first* should be one of the two reserved for decimal numbers. Initialize variable *second* to true (this should give you a hint as to the type of *second*). Constant *third* should be initialized to 700 (use the appropriate type in this definition) ?
- If you have defined *int x* and then assign *x = 2.45*, what is the effect of that assignment?
- Given a variable *float f*, what would be the value and data type of *f* after assigning

$f = 24;$

- e) Given the variables  $n$ ,  $i$  and  $j$  as defined below, what would be the value of  $n$  after the assignment shown?

```
int n, i = 5, j = 8;           n
                                = j - j / i * i ;
```

- f) What is stored in variable  $n$  (integer) after the statement:  $n = n + 1;$  ?  
 g) Convert to decimal the binary number 11101110 (show the process)

## C++ Program

Write a program that prints to cout, separated by a space, the digits of any positive three digit integer. You will need one variable, named, for example, value, for the number (int value) to be broken down into its digits. You might also need other variables to store the digits as you get them.

The structure of your program could be:

```
#include <iostream>

using namespace std;

int main()    {

int number;

// place holders for the digits.    int

digit1, digit2, digit3;

cout << "Type a three digit number\n";

cin >> number;


// your code here

return 0;    }
```

Hint: You can do this by using repeated divisions by 10, and remembering that dividing two integers always results in an integer. For example  $6/5$  would yield a result of 1. You can use the % operation

If your input number is, for example, 345 your output should be 3 4 5 (its three digits separated by a space)