Jacob Johnson

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515-231-5487

1. Constants

2. integer (int)

3. Floating point

4. Modulus Operator

5. Output Statements

6. bool

7. 8

8. comment

9. variable

10. string

**Lab 2.1**

// This program will write the name, address and telephone

// number of the programmer.

// Jacob Johnson

// [jejohnson8@dmacc.edu](mailto:jejohnson8@dmacc.edu)

// 515-231-5487

#include <iostream>

using namespace std;

int main()

{

cout << "\*\*\*\*\*\*\*\*\*\*\*\*" << endl;

cout << endl;

cout << "Programmer:" "Jacob Johnson" << endl;

cout << " 2123 35th Street" << endl;

cout << " Des Moines, IA 50310" << endl;

cout << endl;

cout << endl;

cout << endl;

cout << "Telephone:" "515-231-5487" << endl;

cout << endl;

cout << "\*\*\*\*\*\*\*\*\*\*\*\*" << endl;

return 0;

}

**Lab 2.2**

// Jacob Johnson

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#include <iostream>

using namespace std;

const double PI = 3.14;

const double RADIUS = 5.4;

int main()

{

const double PI = 3.14;

const double RADIUS = 5.4;

int area; // definition of area of circle

int circumference; // definition of circumference

circumference = 2 \* PI \* RADIUS; // computes circumference

area = PI \* RADIUS \* RADIUS; // computes area

cout << "The circumference of the circle is: " << circumference << endl;

cout << "The area of the circle is: " << area << endl;

return 0;

}

Results:

The circumference of the circle is: 33

The area of the circle is: 91

Explain: When we use int C++ only uses integers (whole numbers), and automatically drops the second and beyond digits to the right of a decimal point. In this case, the circumference formula now reads 2\*3.1\*5.4. After that computation is completed, the final answer is rounded to an integer, though not necessarily the nearest integer to the solution. The same process happened for the area calculation. (3.1\*5.4\*5.4=90.396=91).

**Lab 2.3**

**// This program will output the area and perimeter**

**// of the rectangle with a given length and width.**

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**#include <iostream>**

**using namespace std;**

**const int LENGTH = 8;**

**const int WIDTH = 3;**

**int main()**

**{**

**int area; // definition of area of rectangle**

**int perimeter; // definition of perimeter of rectangle**

**area = WIDTH \* LENGTH; // computes area**

**perimeter = 2 \* (LENGTH + WIDTH); // computes perimeter**

**cout << "The area of the rectangle is " << area << endl;**

**cout << "The perimeter of the rectangle is " << perimeter << endl;**

**return 0;**

**}**

**Lab 2.4**

**// This program demonstrates the use of characters and strings**

**// Jacob Johnson**

**// jejohnson8@dmacc.edu**

**// 515-231-5487**

**#include <iostream>**

**#include <string>**

**using namespace std;**

**// Definition of constants**

**const string FAVORITESODA = "Dr. Dolittle"; // use double quotes for strings**

**const char BESTRATING = 'A'; // use single quotes for characters**

**int main()**

**{**

**char rating = 'B'; // 2nd highest product rating**

**string favoriteSnack = "crackers"; // most preferred snack**

**int numberOfPeople = 250; // the number of people in the survey**

**int topChoiceTotal = 148; // the number of people who prefer the top choice**

**// Fill in the code to do the following:**

**// Assign the value of "crackers" to favoriteSnack**

**// Assign a grade of 'B' to rating**

**// Assign the number 250 to the numberOfPeople**

**// Assign the number 148 to the topChoiceTotal**

**// Fill in the blanks of the following:**

**cout << "The preferred soda is " << FAVORITESODA << endl;**

**cout << "The preferred snack is " << favoriteSnack << endl;**

**cout << "Out of " << 250 << " people "**

**<< 148 << " chose these items!" << endl;**

**cout << "Each of these products were given a rating of " << BESTRATING;**

**cout << " from our expert tasters" << endl;**

**cout << "The other products were rated no higher than a " << 'B'**

**<< endl;**

**return 0;**

**}**

**Is it possible to change the choice of FAVORITESODA by adding code within the main module of the program? Why or why not?** No is not. To change the choice of FAVORITESODA you would need to change the global constant, which is not contained within the main module of the program.

**Is it possible to change the choice of favoriteSnack by adding code within the program? Why or why not?** Yes. You may change a variable by adding code within the program.