**CSC 1100 – Problem Solving and Programming**

**Homework 5 – Trevor Trusty**

**25 points – Due March 28, 11am**

**Late deadline is March 30, 11:59pm, but 20% off**

**a)** Save this document with your name and the homework number somewhere in the file name.

**b)** Type/paste your answers into the document.

**c)** Submit this document to the Canvas item where you downloaded this document.

**1) [6 points]** What is the difference between a *void function* and a *value function*? Give an example of each.

**a)** Difference

` Void functions perform a function when called, and Value functions return some value or expression.

**b)** *void function* example

void printSum(int num1, int num2)

{

cout << num1 + num2 << endl;

}

**c)** *value function* example

value addFour(int num)

{

num+=4;

return num;

}

**2) [4 points]** Write a *for statement* that loops through all the years between 1940 and the present, and tests whether the year is a US presidential election year. If so, print the year.

for(int i=1940; i <= 2019; i+=4)

{

cout << i << endl;

}

**3) [5 points]** Write *value function* **fullName** that accepts three string parameters as input: first name, middle name, and last name. If the middle name is not provided in the function call, use a default value of "Q". The function returns a string that concatenates the three name parts into one. Show two calls to fullName, one with three arguments and one with two arguments, and the value returned from each call.

**a)** Function declaration

string fullName(string firstName, string lastName, string middleName = "Q")

{

return firstName + ' ' + middleName + ' ' + lastName;

}

**b)** Function calls

|  |  |  |
| --- | --- | --- |
|  | Call | Value returned |
| 3-argument call | fullName(“Trevor”, “Trusty”, “Nathaniel”) | Trevor Nathaniel Trusty |
| 2-argument call | fullName(“Captain”, “Marvel”) | Captain Q Marvel |

**4) [2 points]** What is the difference between a local variable and a global variable?

Local variables only exist in the function that it was called in, and can’t be used outside of it

Global variables are declared at the top and can be used in all functions

**5) [4 points]**

**a)** What is the purpose of a function stub?

Placeholder for a function until it’s coded;

**b)** Write a function stub for void function **showEmployeeStartDate**.

void showEmployeeStartDate()

{

Cout << “test”;

}

**6) [4 points]** Define an enumerated type that limits values (single characters) to those typically shown on the gear selector lever of a car.

enum gearSelector{P, R, N, D};