**CS 3335**

**HW1**

**25 points**

**Due Friday, Sept 2, 2022**

**Please submit a .zip file with one pdf that has all your written answers and a .c file for your answer to problem 6**

1. Suppose you are writing a program that accepts three numbers as input, adds the first and second together, multiplies that result by the third number, and displays the answer. So for example if the three numbers entered were -3, 5 and 6, the answer would be 15. ( -3 + 5 ) \* 6. Complete the program by filling in the lines where indicated.

// This program computes a result using three inputs.

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* **1 pt. Enter the first line of a C program**

# include <stdio.h>

int main()

{

float num1, num2, num3, answer;

* **2 pt. Write out prompts and have the user enter in the numbers**

printf("Enter three numbers: ");

scanf("%f%f%f", &num1, &num2, &num3);

* **1 pt. Write out ONE assignment statement that stores the computation in the variable that is named answer.**

answer == (num1 + num2) \* num3;

* **1 pt. Print the result**

printf("%f", answer);

return 0;

}

1. What will be the output if you print j? j is declared as an **integer variable** for the following statements (1 + 1 + 1 = 3 pts).

1. j = 20 + 22 % 19 // j will be \_\_\_\_\_\_\_\_\_\_\_23\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. j = 5 \* 4 / 5 \* 6 // j will be \_\_\_\_\_\_\_\_\_\_\_\_24\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. j = -2 / 3 + 6 / 7 // j will be \_\_\_\_\_\_\_\_\_\_\_0\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Write the C statement for declaring PI = 3.14 as a constant using a preprocessor directive(1pt)

#define PI 3.14f

1. What will be the values of k in the last two lines? (2pts – 1 for output of each of the last 2 lines)

int i, j, k;

i = 1;

j = 2;

k = i>j ? j : i;

K = 1

1 is smaller than 2 so we take the second so 1.

k = (j>= 2 ? i : 0) + j;

K = 3

2 = 2 so we take 1 and add it to 2.

1. Submit this problem as a .c file named change.c. (14 points)

Write a program that asks the user to enter a U.S. dollar amount and then shows how to pay that amount using the smallest number of $50, $20, $10, $5 and $1 bills:

**Sample input and output:**

Enter a dollar amount: 87

$50 bills: 1

$20 bills: 1

$10 bills: 1

$5 bills: 1

$1 bills: 2

Hint: Divide the amount by 50 to determine the number of $50 bills, subtract the total value of the $50 bills from the amount. Repeat for the other bill sizes. Use integer values and not floating point numbers for this problem.

*Grading is:*

*1 points for submitting valid code*

*2 points comment and indentation*

*2 points for successful compilation*

*2 points for executing on the sample input and getting correct answer on it*

*7 points for other test cases that I will make*