# HW #2:

Pdf file only, with heading:  
HW #2   
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Due: 11:00 pm, Sunday Sept. 16, 2018 at Google Classroom

1. (12 pts) Write the steps for the following task: Write a program that takes a number in hours (e.g., 1.33) from the user, converts it into minutes, and output it in minutes. (See the Sum Example in Lecture 03 as an example.)

**#include <stdio.h>**

**int main(void) {**

**float hours, minutes;**

**printf("Enter hours:");**

**scanf("%f",&hours);**

**minutes = hours \* 60;**

**printf("Minutes:%f\n",minutes);**

**return 0;**

**}**

1. (18 pts) Write the steps for the following task: Write a program that takes two numbers from the user and outputs their product.

**#include <stdio.h>**

**int main(void) {**

**float num1,num2;**

**printf("Enter first number:");**

**scanf("%f",&num1);**

**printf("Enter second number:");**

**scanf("%f",&num2);**

**printf("%f\n",num1 \* num2);**

**return 0;**

**}**

1. (15 pts) Do an Internet search on keyword "Proofs of Program Correctness" and answer the following questions:  
   a. What is the simplest technique generally accepted to prove program correctness empirically?  
   **Feeding various inputs and verifying correctness of the output**  
     
   b. In the absence of incorrect behavior in a, can we conclude that the program is correct? Why?
2. (10 pts) Declare a variable of type char and initialize it to the letter f using a single command.
3. (10 pts) A program is used to convert from hours to minutes. Write the code for storing the conversion factor 60 as a constant that cannot be changed.
4. (15 pts) Answer true or False: Tell why.
   1. The following declaration of two integers is valid: int value1, Value1;
   2. The scanf function of the standard library is used to output values to the screen.
   3. Not indenting the code properly leads to compilation errors.
5. (20 pts) What is the output of the following program?

#include<stdio.h>

int main(void) {

int x = 4, y = 7;

x = 2\*y;

y = y + 2;

x = 2\*x + y;

x – 1;

printf(“X = %d\n Y = %d\n”, x, y);

return 0;

}