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;
}
```

2. (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;
}
```

3. (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?
No, because there could still be possible values that could be entered that might not function properly i.e. a number greater than 2^64

4. (10 pts) Declare a variable of type char and initialize it to the letter f using a single command.
 char letter = 'f';

5. (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.
#define tomin 60

6. (15 pts) Answer true or False: Tell why.
   a. The following declaration of two integers is valid: int value1, Value1;
      True, variables in c are case sensitive
   b. The scanf function of the standard library is used to output values to the screen.
      False, the printf function is used to output
   c. Not indenting the code properly leads to compilation errors.
      False, indentation is mainly to aid in making code easier to read

7. (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;
}
```
X = 37
Y = 9