Fall 2010 COP 3223 Section 3 Exam 1 Answer Sheet
Last Name: _____ , First Name: _____
Note: You may declare extra variables for any of the following questions.

1) (10 pts) Complete the program below so that it reads in from the user her average running speed in miles per hour and the number of minutes she will run, followed by outputting the total number of miles she'll run, rounded to two decimal places. Note that the input values will be integers, but the final output will be a double.

```c
#include <stdio.h>
#include <math.h>
int main(void) {

  int min_run, mph;
  double miles_run;
  printf("What is your average running speed in mph?\n");
  scanf("%d", &mph);
  printf("How long are you running, in minutes?\n");
  scanf("%d", &min_run);




  return 0;
}
```

2) (10 pts) In Arup's favorite basketball game, he gets 60 seconds to shoot free throws. The first 10 he makes are worth 1 point each and all subsequent ones are worth 2 points. Complete the program below so that it reads in the number of free throws made in 60 seconds and outputs the user's score.

```c
#include <stdio.h>
int main(void) {

  int freethrows, points;
  printf("How many free throws did you make in 60 seconds?\n");
  scanf("%d", &freethrows);




  printf("You scored %d points.\n", _____ );
  return 0;
}
```

3) (10 pts) You have two parties to attend. You bring n slices of pizza to the first party. You give out as many pieces to each of the attendees (except yourself) so that each receives an equal number of pieces. You then take the leftover pieces to the second party and repeat this process. The pieces leftover from this second party are the ones you actually get to eat. Complete the program below so that it correctly calculates how many pieces of pizza the user gets to eat in this scenario. The user will input the initial number of slices of pizza, and the number of people at both parties. (For example, with the values 17, 10 and 5, you get 2 slices at the end.)

```c
#include <stdio.h>
int main(void) {

  int slices, party1, party2;
  printf("How many slices of pizza did you start with?\n");
  scanf("%d", &slices);
  printf("How many people were at the first party?\n");
  scanf("%d", &party1);
  printf("How many people were at the second party?\n");
  scanf("%d", &party2);




  printf("You end up with %d slices for yourself.\n", slices);
  return 0;
}
```

4) (10 pts) Arup's pool has many algae in it. In particular, on Day 1, there are 1000000 algae in his pool. On each subsequent day, the number of algae in his pool is equal to 1.05 times the amount of algae in his pool on the previous day, rounded down to the previous integer. (ie. 19.9 rounds down to 19.) Write a segment of code that prints out a chart that shows how many algae are in Arup's pool starting from day 1 through day 150. The chart should have two columns, one for day number and one for number of algae. No need to worry about formatting.