**Programming Problem list**

**April, 2013**

1. Enter the temperature in Centigrade, convert it to Fahrenheit and print it out.  
   To convert to Fahrenheit, multiply by 1.8 and add 32.  
   E.g. 10C = 10\*1.8+32 = 50F
2. Enter your height in feet and inches and convert to meters, given 1 inch equals 0.0254 meters. Print out your height in meters.
3. Enter 3 numbers and print out the smallest.
4. A salesman is paid a commission on the following basis

|  |  |
| --- | --- |
| Sale Value | Commission |
| up to $100 | zero |
| over $100 to $1000 | 2% |
| over $1000 | 3% |

1. Enter the sale value and print out the commission value (use a maximum entry value of $32000)
2. PDB charges its customers for electricity as follows.

|  |  |
| --- | --- |
| Kilowatt-Hours | Cost($) |
| 0 to 500 | 10 |
| 501 to 1000 | 10 + 0.05 for each kwh over 500 |
| over 1000 | 35 + 0.03 for each kwh above 1000 |

1. Enter the meter reading, calculate the cost and print out how much is charged.
2. Enter a character and a number and print that number of copies of that character.

**Example Input**  
        Enter a character: F  
        Enter a number: 4  
        F  
        F  
        F  
        F

1. Enter a list of numbers, print out that number of asterisks (\*) on that line until   
   the number entered is 0.  
     
   **Example Input**  
   Enter a number: 5  
   \*\*\*\*\*  
   Enter a number: 1  
   \*  
   Enter a number: 0
2. Enter a number between 2 and 20 and print a filled square with sides of that number  
   of asterisks (\*).

**Example Input**  
enter a number: 3  
\*\*\*  
\*\*\*  
\*\*\*

1. Enter a number and print out its multiplication table from 1 to 10.

**Example Input**  
Enter a number: 3  
1 times 3 = 3  
2 times 3 = 6  
.  
.  
10 times 3 = 30

1. Enter a list of numbers terminated by a -1 and print their total.
2. Enter a list of numbers terminated by a -1 and print the smallest number (assume all numbers entered are positive).
3. Enter a list of names terminated by a Z, and print out the alphabetically smallest.
4. Enter a string of results for a History exam terminated by a -1. The pass mark is 50. Print the number of passes and the number of fails.
5. Input the time started and finished at work in hours and minutes, then print out the time spent at work in hours and minutes.

**Example Input**  
Enter start time: 8 30  
Enter finish time: 11 15  
2 hours 45 minutes

1. Enter a person’s weight in kilograms and height in meters. Calculate the persons   
   Quetelet Index (kilos / (meters\*meters)). Print out the Quetelet Index and an   
   appropriate message as indicated by the table below.

|  |  |
| --- | --- |
| Below 20 | Underweight |
| 20 to below 25 | Healthy weight |
| 25 to below 30 | Mildly overweight |
| 30 to below 40 | Very overweight |
| 40 and above | Extremely overweight |

1. Enter a list of numbers terminated by a -1 and print the difference between each pair  
   of numbers.

**Example Input**  
Enter a number: 3  
Enter a number: 5  
Difference is 2  
Enter a number: 6  
Difference is 1  
Enter a number: 10  
Difference is 4  
Enter a number: -1

1. Enter 2 numbers and print them out. Then print the next 13 numbers in the sequence, where   
   the next number is the sum of the previous two.

**Example Input**  
Enter the first number: 1  
Enter the second number: 3  
1 3 4 7 11 18 29 47 76 123 322 521 843 1364

1. Enter your name and a number and print that number of copies of your name.

**Example Input**  
Enter your name: Fred  
Enter a number: 4  
Fred  
Fred  
Fred  
Fred

1. Enter your name; convert to uppercase, reverse and print.

**Example Input**  
enter your name: Fred  
DERF

1. Input a sentence, count and print the number of spaces.

**Example Input**  
enter the sentence: A cat sat on the mat.  
Number of spaces = 5

1. Input a sentence and print one word per line. Assume one space between words  
   and the sentence is terminated with a period.

**Example Input**  
enter the sentence: A cat sat on the mat.  
A  
cat  
sat  
on  
the  
mat

1. Input a sentence and print out if it is a palindrome

**Example Input**  
enter the sentence: Madam I'm Adam  
It is a palindrome

**Example Input**  
enter the sentence: Fred  
Not a palindrome

1. Input ten numbers into an array, and print the numbers in reverse order.

**Example Input**  
Enter the numbers: 5 4 6 7 22 19 12 15 2 1  
1 2 15 12 19 22 7 6 4 5

1. Input ten numbers into an array, and print these 3 times.

**Example Input**  
Enter the numbers: 5 4 6 7 22 19 12 15 2 1  
5 4 6 7 22 19 12 15 2 1  
5 4 6 7 22 19 12 15 2 1  
5 4 6 7 22 19 12 15 2 1

1. Input ten numbers into an array, calculate and print the average, and print   
   out those values below the average.

**Example Input**  
Enter the numbers: 5 4 6 7 22 19 12 15 2 1  
Average = 9.3  
those numbers below the average 5 4 6 7 2 1

1. Input ten numbers into an array, and print out the largest.

**Example Input**  
Enter the numbers: 5 4 6 7 22 19 12 15 2 1  
The largest number is 22

1. Input ten numbers into an array, using values of 0 to 99, and print out   
   all numbers except for the largest number..

**Example Input**  
Enter the numbers: 5 4 6 7 22 19 12 15 2 1  
5 4 6 7 19 12 15 2 1

1. Input ten numbers into an array, using values of 0 to 99, and print the   
   values in ascending order.

**Example Input**  
Enter the numbers: 5 4 6 7 22 19 12 15 2 1  
1 2 4 5 6 7 12 15 19 22