CS 1301 - Homework 05

Due before September 25, 5pm on Vista (WebCT). You may only submit your work once.

1. **Celsius.java** – Write a program to display the Celsius to Farenheit conversions. Your output should be displayed in three sets of columns similar to the display below. This is the conversion formula: $T_F = (T_C \times 9/5) + 32$.

Celsius	Farenheit	Celsius	Farenheit	Celsius	Farenheit
10	50.0	20	68.0	30	86.0
11	51.8	21	69.8	31	87.8
12	53.6	22	71.6	32	89.6
13	55.4	23	73.4	33	91.4
14	57.2	24	75.2	34	93.2
15	59.0	25	77.0	35	95.0
16	60.8	26	78.8	36	96.8
17	62.6	27	80.6	37	98.6
18	64.4	28	82.4	38	100.4
19	66.2	29	84.2	39	102.2

2. **Table.java** – Consider the function, $z = \sqrt{(x + 1)y}$. Print a table of the values of z for x=1,2,3,4,5 and y=1,2,3,4,5. Your table should look exactly like this:

	1	2	3	4	5
1	1.414	2.000	2.449	2.828	3.162
2	1.732	2.449	3.000	3.464	3.873
3	2.000	2.828	3.464	4.000	4.472
4	2.236	3.162	3.873	4.472	5.000
5	2.449	3.464	4.243	4.899	5.477

3. **Scores.java** – A user will enter the test scores one-at-a-time. The program will compute and display a breakdown showing the number and percentage of A, B, C, D, F's. Use the usual 10 point scale to assign grades. Display the formatted results. If the input is: 63, 95, 84, 81, 75, 79, 66, 46, 99, 86, 78, 70, then the output should be similar to that shown below.

Grade	Number	Percentage
A	2	16.6%
B	3	25.0%
C	4	33.3%
D	2	16.6%
F	1	8.3%

4. **Divide.java** – Write a program that accepts a floating point number from the user. Divide the number by 2. If the result is less than 10 then stop. Otherwise, divide the result by 3 and if the new result is less than 10, stop. Otherwise, divide the new result by 4, *etc*. When complete, display the original number, the current value, and the number of divisions. For instance if the user enters: 50.4 the program will display:

   Original Number: 50.4, Final Number: 8.4, Number of divisions: 2

5. **Primes.java** – Prompt the user for three integers: *beg, end, numPerLine*. You program will then find all primes between *beg* and *end* (inclusive). For instance, if *numPerLine* is 4, then display these primes 4 per line.