Chapter 3 – Extra Practice

Extra Practice

Extra practice is for those who would like to do some extra practice projects to further hone their skills learned in each assignment. There are no additional points to be gained by completing these projects.

Letter Grade Converter

Create a program that converts number grades to letter grades.

```
Letter Grade Converter

Enter numerical grade: 90
Letter grade: A

Continue? (y/n): y

Enter numerical grade: 88
Letter grade: A

Continue? (y/n): y

Enter numerical grade: 80
Letter grade: B

Continue? (y/n): y

Enter numerical grade: 67
Letter grade: C

Continue? (y/n): y

Enter numerical grade: 59
Letter grade: F

Continue? (y/n): n

Bye!
```

Specifications

- The grading criteria is as follows:

A	88-100
B	80-87
C	67-79
D	60-66
F	<60

- Assume the user will enter valid data.
- The program should continue only if the user enters “y” or “Y” to continue.

Shipping Calculator

Create a program that calculates the total cost of an order including shipping.

```
================================================================
Shipping Calculator
================================================================
Cost of items ordered:  49.99
Shipping cost:          7.95
Total cost:             57.94

Continue? (y/n): y
================================================================
Cost of items ordered:  -65.50
You must enter a positive number. Please try again.
Cost of items ordered:  65.50
Shipping cost:          9.95
Total cost:             75.45

Continue? (y/n): n
================================================================
Bye!
```

Specifications

- Use the following table to calculate shipping costs:

COST OF OTEMS	SHIPPING COST
< 30.00	5.95
30.00-49.99	7.95
50.00-74.99	9.95
? 75.00	FREE

- If the user enters a number that's less than zero, display an error message and give the user a chance to enter the number again.

Table of Powers

Create a program that displays a table of squares and cubes for the specified range of numbers.

```
Table of Powers

Start number: 90
Stop number:  100

Number     Squared       Cubed
======     =======       =====
90  8100   729000
91  8281   753571
92  8464   778688
93  8649   804357
94  8836   830584
95  9025   857375
96  9216   884736
97  9409   912673
98  9604   941192
99  9801   970299
100 10000  1000000
```

Specifications

- The formula for calculating squares and cubes are:

  square = x ** 2
  cube = x ** 3

- Use tabs to align the columns
- Assume the user will enter valid integers.
- Make sure the user enters a start integer that's less than the stop integer. If the user enters a start integer that's greater than the stop integer, display an error message and give the user a chance to enter the integers again.