**IS 665 Data Analysis For Information Systems**

**Technical Assignment 2**

**Part I. Statistics (60 pts.)**

At the end of lab I, I asked the following questions:

### Flops

What product sold the least number of units?

### Top Seller

What product category provided the most revenue in 2011?

### Sales by Product Category

What percentage did the off-road bikes contribute to the overall bicycle sales quantity?

In which three cities was this percentage significantly above the average?

### Seasonal Behavior

Bicycles and accessories are more likely to be bought in spring and summer as in fall and winter time. Find which product is an exception to this rule.

Please develop your pivot table to answer the above questions. FOR EACH QUESTION, SHOW A SCREEN SHOT OF YOUR PIVOT TABLE, THEN SHOW YOUR ANALYSIS BASED ON THE SCREENSHOT AND YOUR CONCLUSION.

Your grade is not only based on your screen shot, but also on how thorough your analysis is, and whether your analysis is consistent with the pivot table your constructed.

**Part II. Data Structure (40 pts.)**

In today’s class, we reviewed the data structure called stack and queue, and learned about BFS and DFS.

In the following graph, nodes are represented as alphabets.

A ---- B ---R ---K

/ / /

/ / /

E ---- F ---P

* Please perform a Depth-First-Search (DFS) to find all paths from K to E. Please draw a tree to show your process. (20 points)
* Please perform a Breadth-First-Search (BFS) to find all paths from K to E. Please draw a tree to show your process. (20 points)

**HINT: If logic alone does not help, you could pretend to be a “human stack” or “human queue”, follow the algorithm and pseudo code we covered in class and get the results.**