**Puzzle Gen**

Carmen Nicholson and Eboni Williams

CSC 325-002

For our assignment we used the Depth First Search (DFS) to create Puzzle Gen. Our implementation of creates a 5 x 5 letter matrix in order to find words from an imported dictionary. The matrix has the letters in alphabetical order and finds words in the most efficient way. We used the DFS in order to have the ability to keep a list of the previously visited nodes and checks all of the adjacent options. This is perfect for our implementation structure.

**Goal**

The goal of our implementation is to find the words in a dictionary as efficiently as possible. Our main constraint was that in order to make our matrix a 5 x 5 we had to exclude ‘x’ from our alphabet. We have accounted for this exclusion in our dictionary.

**Objectives**

The DFS’s objective is to use color in order to keep track of the vertices that have been visited. Once the search reaches a dead end, it back tracks and tries another path. The way this is accomplished is by using a stack.

**Tasks**

Both members contributed to each portion of the assignment. Collectively we came up with the idea for our program and discussed the best way to implement it. Eboni did majority of the writing of the program with input from Carmen. Carmen did most of the write up with contribution from Eboni.