# **Team Members**

## Name: Mahaboob Ali Ashraf Mohammad, NetID: mmoha055

## Name: Anvaya, NetID:

Week 5 (Due Thursday, November 02 by midnight)

**Question 1 (3 points): Finding a Fixed Food Dot using Depth First Search**

Through the task of implementing depth-first search (DFS) for the Pac-Man project, I learned how to apply and optimize this fundamental search algorithm in a real-world context. It provided a hands-on understanding of the intricacies of managing a search stack, efficiently backtracking when necessary, and the trade-offs between recursion and iteration. I also grasped the importance of graph search to prevent revisiting states and gained insights into code optimization to prevent issues like stack overflow. Overall, this experience deepened my knowledge of AI algorithms, honed my problem-solving and coding skills, and underscored the significance of testing and documentation in software development.

**Solution for the 3 example mazes  
A screenshot of a computer screen

Description automatically generated  
  
Auto grader results  
A screenshot of a computer program

Description automatically generated**

**Question 2 (3 points): Breadth First Search**

**Question 3 (3 points): Varying the Cost Function**

**Question 4 (3 points): A\* search**