

## Reid7.py Algorithm:

- I. Create the menu based on if root creature exists
  - A. If root does not exist
    1. Ask user to create root creature
    2. Create root creature based on user input
  - B. If root does exist
    1. Print regular menu options
    2. Ask user to make a selection
- II. Run selection based on menu choice
  - A. Add Creature
    1. Print existing tree using same method as Print All
    2. Ask user for parent
    3. Ask user for new creature
    4. Search for parent in the tree
      - a) If found add the new creature on the next level
      - b) If not found print an error
  - B. Print All
    1. Get dictionary of all creatures
    2. Convert the dictionary to a list with each generation as a value
    3. Center the root creature above the children
    4. Align the grandchildren beneath their parent
    5. Create the arrows and position them to point from parent to child
    6. Iterate through list and print each level
  - C. Print Specific
    1. Get dictionary of all creatures
    2. Ask user for a specific name
    3. Check if the name is the root creature
      - a) If the name is not the root creature
        - (1) Search the children
          - (a) If the name is not in the children

- i) Search the grandchildren
    - (1) If the name is not in the grandchildren
      - (a) Name does not exist
    - (2) If the name is in the grandchildren
      - (a) Add name to list
      - (b) Set parent to name and restart search
  - (b) If the name is in the children
    - i) Add name to list
    - ii) Set parent to name and restart search
  - b) If the name is the root creature
    - (1) Add name to list
- 4. Iterate through the list and create a statement based on results
- 5. Print statement created above
- D. Exit
  - 1. Exits the program