

CS124 – Project 08 – MadLib Design

Function Name: **getFileName**

Description of Function: This function will ask the user for the filename.

Functions Called: None

| Parameter | Data Type | Return, Pass by Value, Pass by Reference | Description |
|-----------|-----------|---|---------------------------------|
| fileName | char [] | Pass by Reference | Filename with the madLib story. |

Function Name: **readFile**

Description of Function: Read the file and store each word into the story array. If the word is a question tag, then ask the user for a word to replace the question. The story array should contain the answer. Punctuation tags should not be replaced.

Functions Called: isQuestionTag, replaceQuestionTag

| Parameter | Data Type | Return, Pass by Value, Pass by Reference | Description |
|-----------|---------------|---|---|
| fileName | char [] | Pass by Reference | Filename with the madLib story. |
| story | char [][][32] | Pass by Reference | Contain all the words in the story |
| numWords | int | Pass by Reference | The number of words read from the file and stored in the story array. |

Function Name: **displayStory**

Description of Function: Display the words in the story array. If the word is a punctuation tag, then display the appropriate punctuation. This function will need to consider how to properly space the words.

Functions Called: isPunctuationTag

| Parameter | Data Type | Return, Pass by Value, Pass by Reference | Description |
|-----------|---------------|---|------------------------------------|
| story | char [][][32] | Pass by Reference | Contain all the words in the story |
| numWords | int | Pass by Value | Number of words in the story array |

Function Name: **askPlayAgain**

Description of Function: Ask the user if they want to play another madLib game ('y' or 'n')

Functions Called: None

| Parameter | Data Type | Return, Pass by Value, Pass by Reference | Description |
|-----------|-----------|---|--------------------------|
| playAgain | bool | Return | True = Yes False = No |

Function Name: **isQuestionTag**

Description of Function: Determine if a single word is a question tag:

- 1) Check to see if the first character is '<'
- 2) Check to see if it's not a punctuation tag
- 3) Check to see if the last character is '>'

Functions Called: isPunctuationTag

| Parameter | Data Type | Return, Pass by Value, Pass by Reference | Description |
|------------|-----------|---|---|
| word | char [] | Pass by Reference | Single Word |
| isQuestion | bool | Return | True = Question Tag False = Not a Question Tag |

Function Name: **isPunctuationTag**

Description of Function: Determine if a single word is a punctuation tag:

- 1) Check to see if the first character is '<'
- 2) Check to see if the second character is: # { } []
- 3) Check to see if the third character is '>'
- 4) Check to see if there are no more characters (in other words, the tag is only 3 characters long)

Functions Called: None

| Parameter | Data Type | Return, Pass by Value, Pass by Reference | Description |
|---------------|-----------|---|---|
| word | char [] | Pass by Reference | Single Word |
| isPunctuation | bool | Return | True = Punctuation Tag False = Not a Punctuation Tag |

Function Name: **replaceQuestionTag**

Description of Function: Display the content of the question tag without the carets (< and >). The first letter should be uppercase and all subsequent letters should be lowercase. Any "_" should be replaced with a space. For example: <proper_noun> will display as: " Proper noun: ". The user will type in a value (may have spaces in it). The question tag will be replaced with the value entered by the user.

Functions Called: None

| Parameter | Data Type | Return, Pass by Value, Pass by Reference | Description |
|-----------|-----------|---|-------------|
| word | char [] | Pass by Reference | Single Word |

Function Name: **main**

Description of Function: Call getFileName, readFile, and displayStory to play the game. Repeat these 3 calls so long as the user want to keep playing the game (via the askPlayAgain function).

Functions Called: getFileName, readFile, displayStory, askPlayAgain

| Parameter | Data Type | Return, Pass by Value, Pass by Reference | Description |
|-----------|-----------|---|---|
| ErrorCode | int | Return | Main will return 0 to the operating system. |