

PSUDOCODE FOR QUEUE

```
class CustomQueue<T>:
    private Object[] queue
    private int front
    private int rear
    private int size
    private static final int DEFAULT_CAPACITY = 10

    function CustomQueue():
        queue = new Object[DEFAULT_CAPACITY]
        front = 0
        rear = -1
        size = 0

    function ensureCapacity():
        if size == queue.length:
            newQueue = new Object[size * 2]
            copyElements(queue, newQueue, front, size - front)
            copyElements(queue, newQueue, 0, rear + 1)
            queue = newQueue
            front = 0
            rear = size - 1

    function enqueue(element: T):
        ensureCapacity()
        rear = (rear + 1) % queue.length
        queue[rear] = element
        size++

    function dequeue(): T:
        if not isEmpty():
            element = queue[front]
            front = (front + 1) % queue.length
            size--
            return element
        return null

    function isEmpty(): boolean:
        return size == 0

    function size(): int:
        return size

    function copy(): CustomQueue<T>:
        copyQueue = new CustomQueue<T>()
        for i = 0 to size - 1:
            copyQueue.enqueue(queue[(front + i) % queue.length])
        return copyQueue

    function countOccurrences(element: T): int:
        count = 0
        for i = 0 to size - 1:
            if element.equals(queue[(front + i) % queue.length]):
```

```
    count++  
    return count
```

```
function findMostFrequent(): T:
```

```
    if isEmpty():  
        return null
```

```
    mostFrequent = null  
    maxCount = 0
```

```
    for i = 0 to size - 1:  
        item = queue[(front + i) % queue.length]  
        count = countOccurrences(item)  
        if count > maxCount:  
            maxCount = count  
            mostFrequent = item
```

```
    return mostFrequent
```

```
function findLongest(): T:
```

```
    if isEmpty():  
        return null
```

```
    longest = queue[front]
```

```
    for i = 0 to size - 1:  
        item = queue[(front + i) % queue.length]  
        if length(item.toString()) > length(longest.toString()):  
            longest = item
```

```
    return longest
```

```
class QueueTextParser:
```

```
    queue = new CustomQueue<String>()
```

```
function readTextFile(filePath: String): String:
```

```
    fileContent = ""
```

```
    try:
```

```
        open and read file at filePath
```

```
        while line is not null:
```

```
            append line to fileContent
```

```
    catch IOException:
```

```
        print error details
```

```
    return fileContent
```

```
function readAndAddToQueue():
```

```
    filePath = "/Users/egj/Desktop/Queue/HouseofUsher.txt"
```

```
    text = readTextFile(filePath)
```

```
    words = split text into words using non-alphanumeric characters
```

```
    for word in words:
```

```
        if word is not empty:
```

```
            queue.enqueue(toLowerCase(word))
```

```
function main():
```

```
textParser = new QueueTextParser()
textParser.readAndAddToQueue()

superhumanCount = textParser.getWordCount("superhuman")
chiromancyCount = textParser.getWordCount("chiromancy")
discernibleCount = textParser.getWordCount("discernible")
percutaneousCount = textParser.getWordCount("percutaneous")
unsatisfactoryCount = textParser.getWordCount("unsatisfactory")

totalEntries = textParser.getSize()
wordsOver20 = textParser.getWordsMoreThan20()
mostFrequentWord = textParser.getMostFrequentWord()
longestWord = textParser.getLongestWord()

print "superhuman count:", superhumanCount
print "chiromancy count:", chiromancyCount
print "discernible count:", discernibleCount
print "percutaneous count:", percutaneousCount
print "unsatisfactory count:", unsatisfactoryCount

print "Total entries:", totalEntries
print "Words over 20 in the first 1000 entries:", wordsOver20
print "Most frequent word:", mostFrequentWord
print "Longest word:", longestWord

wordsToFind = ["superhuman", "chiromancy", "unsatisfactory", "percutaneous",
"discernible"]
textParser.countDequeueOperationsForWords(wordsToFind)

print "PROCESSES COMPLETED"
```