| **Stage 2 - Program Design** | **Marks (for teacher-use only)** |
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| 1. **UML Diagram -** Create a diagram to illustrate the classes included and be sure to use the standard UML notations covered this semester. Indicate the association and hierarchy of the classes.  | **TextData** | 1 1…\* **-------------------------------------->** | **Word** | | --- | --- | --- | | -words : Arraylist<Word>  -adjacencies : int[][]  -sentenceCount : int  -wordCount : int | -length : int  -text : String[]  -properNoun : boolean  -forcedComma : boolean  -transistionComma : boolean  -transitionFreq : int | | +TextData(size : int)  -addNode(nextWord : Word) : void  -addEdge(source : int, destination : int) : void  +hasEdge(source : int, destination : int) : boolean  +toString() : String  -depthFirstSearch(source : int) : void  +getWordFreq(word : Word) : int  -binarySearch(key : Word) : int  +generateSentence() : String  +generateProbableSentence() : String  +generateParagraph() : String  +predictSubject() : void  +compare(compareText : TextData) : void  +getUniqueWordCount() : int  +getAvgSentenceLength() : int  +getAvgWordLength() : int  +getPercentProperNouns() : int  -sort() : void | +Word(word : String)  +incrementTransistionFreq() : void  +toString() : String  +toStringCapital() : String  +equals(word : Object) : boolean  +compareTo(word : Object) : int  +endsSentence() : boolean  +getLength() : int  +unForceComma() : void  +setProperNoun() : void | | **/5** |
| 1. **User Interface -** Provide an example of what the user interface will look like (organization of output, what inputs will be required, etc.)   \*Insert a sample of your user interface here\*  ***Input User Interface***  *Main Menu*  (1)Help  (2)Comparative Analysis  (3)Predictive Analysis  (4)Basic Statistics  (5)Exit  *Sub Menus* (Note, (1) and (2) do not have their own submenus  **(2)** (1)Help  (2)Import New Text File  (3)Compare Writing Styles  **(3)** (1)Help  (2)Most Probable Next Sentence  (3)Predict Next Sentence  (4)Predict Next Paragraph  **(4)** (1)Help  (2)Unique Word Count  (3)Average Sentence Length  (4)Average Word Length  (5) Predict Subject of Text  (6) % of Text using Proper Nouns  **Example Output**  \*Most statistic outputs only consist of a title and integer i.e. *Average Word Length: 5*  For Compare Writing Styles:  The two texts are *XX*% similar.  They are *unlikely/moderately likely/likely/very likely* to be written by the same person.  *Misc. Stats (Only displayed if relevant)*  *Both texts share the same most common word: xxxxx*  *Both texts share the same subject: xxxxx*  *Both texts reference: xxxxx* | **/5** |