## **Explanation of Code Sections**

### **import statements:**

* Scanner: for reading user input.
* HashMap: for tracking character frequencies.
* HashSet: to find the number of unique words.
* Map: used for iterating over key-value pairs.

### **1.Input**

* Uses Scanner to read a paragraph.
* trim() removes leading/trailing whitespace.
* Includes validation to ensure input isn’t empty.

### **2. Character Count**

* Simple .length() to get total characters (including punctuation and spaces).

### **3. Word Count**

* split("\\s+") splits on one or more spaces.
* Counts the words using array length.

### **4. Most Common Character**

* Loops through each character and counts how many times each appears.
* Ignores non-letter characters like spaces/punctuation.
* Uses getOrDefault to safely update frequency.
* Tracks the character with the **maximum frequency**.

### **5. Character Frequency (User Input)**

* Ensures a **single letter** is entered.
* Counts the number of times this character appears

### **6. Word Frequency (User Input)**

* Validates that it’s an alphabetic word.
* Compares with each word from the paragraph

### **7. Unique Word**

* Adds each word in lowercase to a HashSet (automatically ignores duplicates).
* set.size() gives the number of unique words.

### **8. Output**

* Clear, formatted output of all statistics.