**4.10 TEXT JUSTIFICATION USING GREEDY STRATEGY**

**Question:**

Given an array of strings words and a width maxWidth, format the text such that each line has exactly maxWidth characters and is fully (left and right) justified. You should pack your words in a greedy approach; that is, pack as many words as you can in each line. Pad extra spaces ' ' when necessary so that each line has exactly maxWidth characters. Extra spaces between words should be distributed as evenly as possible. If the number of spaces on a line does not divide evenly between words, the empty slots on the left will be assigned more spaces than the slots on the right. For the last line of text, it should be left-justified, and no extra space is inserted between words. A word is defined as a character sequence consisting of non-space characters only. Each word's length is guaranteed to be greater than 0 and not exceed maxWidth. The input array words contains at least one word.

**AIM**

To implement a Python program that formats a list of words into fully justified text using a greedy line-packing strategy.

**ALGORITHM**

1. Initialize an empty list result to store justified lines.
2. Use a pointer to iterate through words, packing as many as fit within maxWidth.
3. For each line:
   * If it’s the last line or contains only one word, left-justify it.
   * Otherwise, distribute spaces evenly between words.
   * If spaces don’t divide evenly, assign more to the leftmost gaps.
4. Append each formatted line to result.
5. Return the list of justified lines

**PROGRAM**

A computer code with many letters and numbers

AI-generated content may be incorrect.

Input:

Enter words separated by space: Hi I would like to run this python program successfully

Enter max width: 18

Output:

A white background with black text

AI-generated content may be incorrect.

**RESULT:**

Thus the program is successfully executed and the output is verified.

**PERFORMANCE ANALYSIS:**

· Time **Complexity:** O(n), where *n* is the number of words

· Space **Complexity:** O(n), for storing the result..