

**Birla Institute of Technology and Science-Pilani, Hyderabad Campus**  
**First Semester 2020-2021**  
**Lab Sheet-14**  
**CS G526: Advanced Algorithms and Complexity**  
**Date: 03/02/21**

**General Instructions:** Argue logically. Write it in a manner that explains your logic very clearly. Do not miss steps in between.

**Problem-1: [50 pts]** Suppose you are given a matrix where every cell contains a letter. Your goal is to find the longest path of consecutive letters in this matrix starting with "B". Return the length (number of alphabets in the path) of the longest path.

Transition Rule:

You can move from one cell to the another cell adjacent to it vertically/horizontally/diagonally.

Example:

Input:

```
I B C
H E D
G F K
```

Output:  
8

Explanation:

B - C - D - E - F - G - H - I.