ASSIGNMENT 3

```c
#include <stdio.h>

#include <string.h>


#define MAX 50


void searchWord(char grid[MAX][MAX], int m, int n, char word[]) {

    int len = strlen(word);

    int found = 0;


    // Horizontal search (left to right)

    for (int i = 0; i < m; i++) {

        for (int j = 0; j <= n - len; j++) {

            int k;

            for (k = 0; k < len; k++) {

                if (grid[i][j + k] != word[k])

                    break;

            }

            if (k == len) {

                printf("Start: (%d, %d) End: (%d, %d)\n", i, j, i, j + len - 1);

                found = 1;

            }

        }

    }


    // Vertical search (top to bottom)

    for (int i = 0; i <= m - len; i++) {
```

```c
        for (int j = 0; j < n; j++) {
            int k;
            for (k = 0; k < len; k++) {
                if (grid[i + k][j] != word[k])
                    break;
            }
            if (k == len) {
                printf("Start: (%d, %d) End: (%d, %d)\n", i, j, i + len - 1, j);
                found = 1;
            }
        }
    }

    if (!found)
        printf("Word not found\n");
}

int main() {
    int m, n;
    char grid[MAX][MAX];
    char word[MAX];

    printf("Enter number of rows: ");
    scanf("%d", &m);
    printf("Enter number of columns: ");
    scanf("%d", &n);

    printf("Enter the grid (each row of uppercase letters):\n");
    for (int i = 0; i < m; i++)
```

```c
        scanf("%s", grid[i]);


    printf("Enter the target word: ");

    scanf("%s", word);


    printf("\nSearching for word '%s'...\n", word);

    searchWord(grid, m, n, word);


    return 0;

}
```

```
Enter number of rows: 5
Enter number of columns: 5
Enter the grid (each row of uppercase letters):
MAYUR
FGFBT
PROUR
KRIDJ
RAKSH
Enter the target word: MAYUR

Searching for word 'MAYUR'...
Start: (0, 0) End: (0, 4)


=== Code Execution Successful ===
```

```
Enter number of rows: 5
Enter number of columns: 5
Enter the grid (each row of uppercase letters):
MFBYE
ADFGH
YFGHJ
UKJER
RCFRD
Enter the target word: MAYUR

Searching for word 'MAYUR'...
Start: (0, 0) End: (4, 0)


=== Code Execution Successful ===
```