



**CHANAKYA
UNIVERSITY**

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SUBMITTED BY:-

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SUBJECT:- DATA STRUCTURES AND ALGORITHM

SECTION:- "D"

CODE:-

```
#include<stdio.h>
```

```
#include<string.h>
```

```
#define MAX100
```

```
int main() {
```

```
    int n, m;
```

```
    printf("Enter number of rows: ");
```

```
    scanf("%d", &n);
```

```
    printf("Enter number of columns: ");
```

```
    scanf("%d", &m);
```

```
    char grid[MAX][MAX];
```

```
    printf("Enter the grid (each row of %d characters):\n", m);
```

```
    for (int i = 0; i < n; i++) {
```

```
        for (int j = 0; j < m; j++) {
```

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

```
        }
```

```
    }
```

```
    char word[MAX];
```

```
printf("Enter the word to search:");

scanf("%s", word);

int len = strlen(word);


int found = 0;


//Search horizontally (left to right)
for (int i = 0; i < n; i++) {
    for (int j = 0; j <= m - 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;
        }
    }
}


//Search vertically (top to bottom)
for (int i = 0; i <= n - len; i++) {
    for (int j = 0; j < m; 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");

return 0;

}
```

OUTPUT:-

Output

[Clear](#)

```
Enter number of rows: 7
Enter number of columns: 7
Enter the grid (each row of 7 characters):
S H R E Y A S
A B C D E F G
H S H R E Y A
R E Y A S H R
E Y A S H R E
Y A S H R E Y
S H R E Y A S
Enter the word to search: SHREYAS
```