Lab report

Title of Lab: Linear search using section clause in OpenMP
Assessment #: 7
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Lab section: Friday L59 + L60

AIM: Write a simple OpenMP program to demonstrate Linear Search using Section Clause.
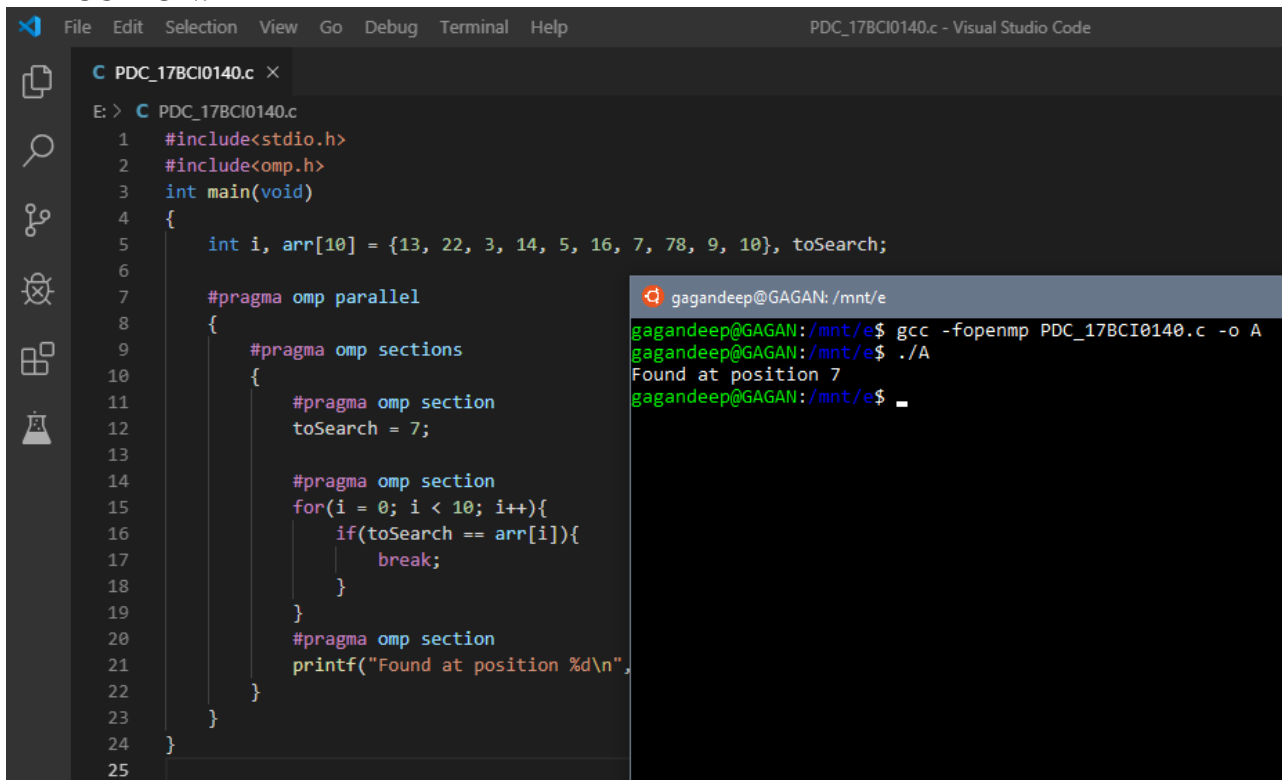
SOURCE CODE:

```c
#include<stdio.h>
#include<omp.h>
int main(void)
{
    int i, arr[10] = {13, 22, 3, 14, 5, 16, 7, 78, 9, 10}, toSearch;

    #pragma omp parallel
    {
        #pragma omp sections
        {
            #pragma omp section
            toSearch = 7;

            #pragma omp section
            for(i = 0; i < 10; i++){
                if(toSearch == arr[i]){
                    break;
                }
            }
            #pragma omp section
            printf("Found at position %d\n", i+1);
        }
    }
}
```

EXECUTION:

```c
#include<stdio.h>
#include<omp.h>
int main(void)
{
    int i, arr[10] = {13, 22, 3, 14, 5, 16, 7, 78, 9, 10}, toSearch;

    #pragma omp parallel
    {
        #pragma omp sections
        {
            #pragma omp section
            toSearch = 7;

            #pragma omp section
            for(i = 0; i < 10; i++){
                if(toSearch == arr[i]){
                    break;
                }
            }
            #pragma omp section
            printf("Found at position %d\n",
        }
    }
}
```

```
gagandeep@GAGAN: /mnt/e
gagandeep@GAGAN:/mnt/e$ gcc -fopenmp PDC_17BCI0140.c -o A
gagandeep@GAGAN:/mnt/e$ ./A
Found at position 7
gagandeep@GAGAN:/mnt/e$ _
```

RESULTS: The omp sections directive distributes work among threads bound to a defined parallel region.