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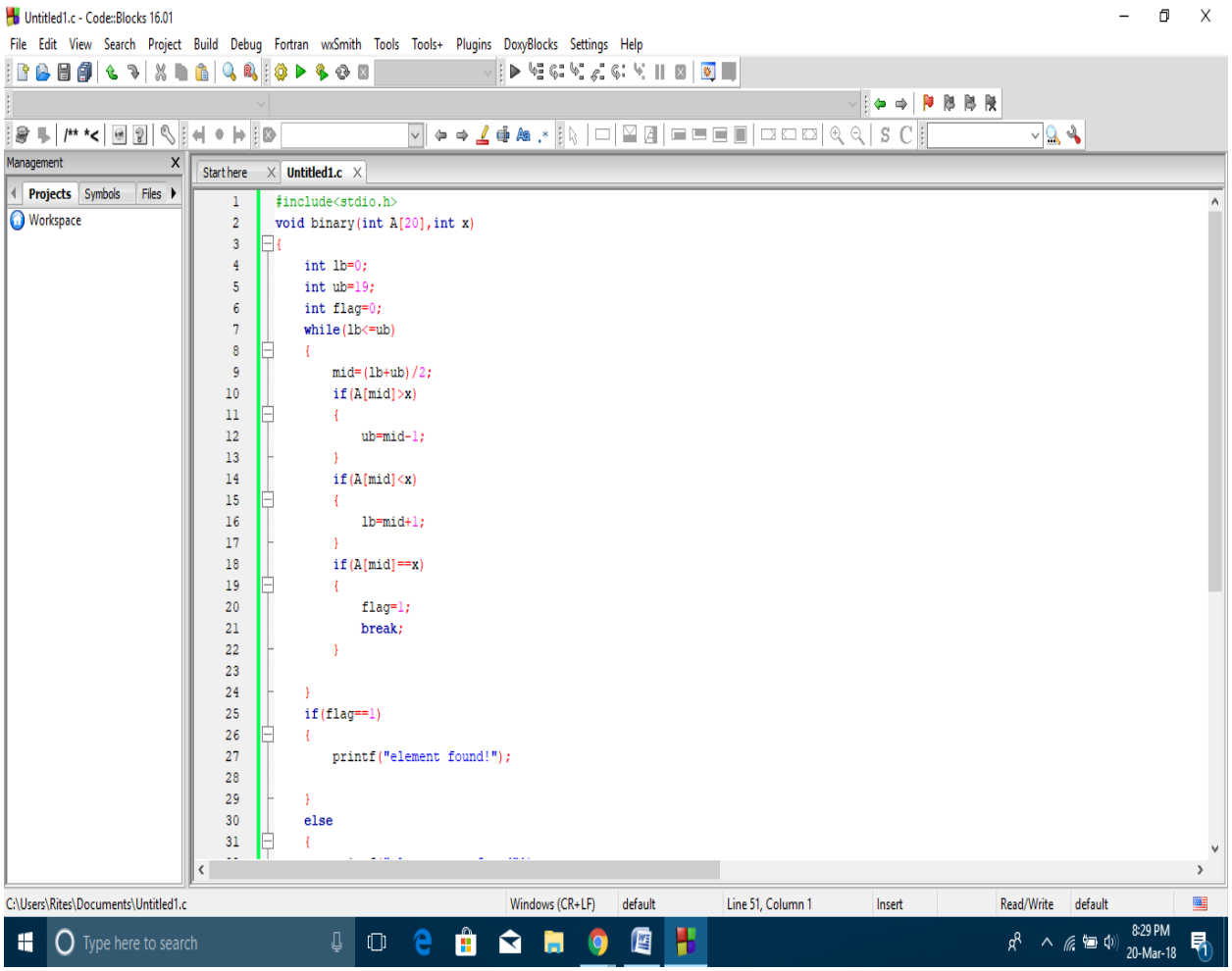
ITE - 1004
DATA STRUCTURE AND ALGORITHM
BINARY SEARCH

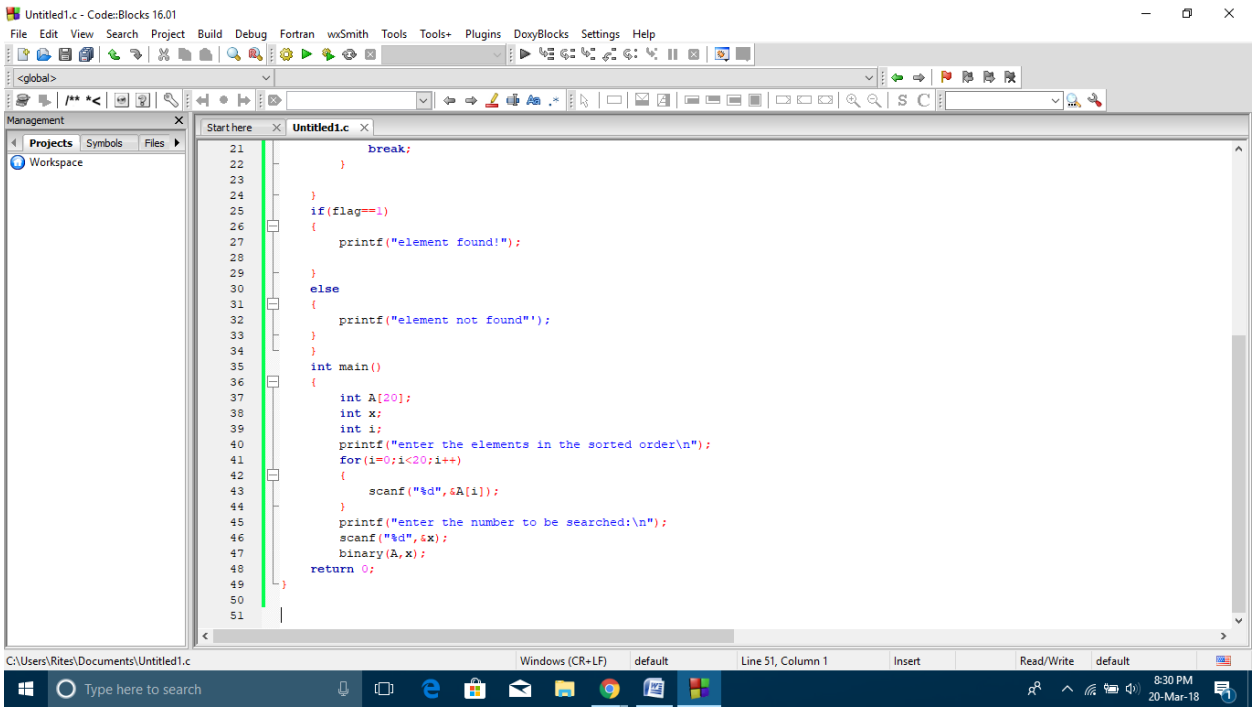
```
#include<stdio.h>
void binary(int A[20],int x)
{
     int lb=0;
     int ub=19;
     int flag=0;
     while(lb<=ub)
     {
          mid=(lb+ub)/2;
          if(A[mid]>x)
          {
               ub=mid-1;
          }
          if(A[mid]<x)
          {
               lb=mid+1;
          }
          if(A[mid]==x)
          {
               flag=1;
               break;
          }

     }
     if(flag==1)
     {
          printf("element found!");

     }
     else
     {
          printf("element not found"');
     }
     }
     int main()
     {
          int A[20];
```

```
        int x;
        int i;
        printf("enter the elements in the sorted order\n");
        for(i=0;i<20;i++)
        {
             scanf("%d",&A[i]);
        }
        printf("enter the number to be searched:\n");
        scanf("%d",&x);
        binary(A,x);
    return 0;
}
```





OUTPUT

```
enter the elements in the sorted order
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
enter the number to be searched:
28
element found!

...Program finished with exit code 0
Press ENTER to exit console.
```