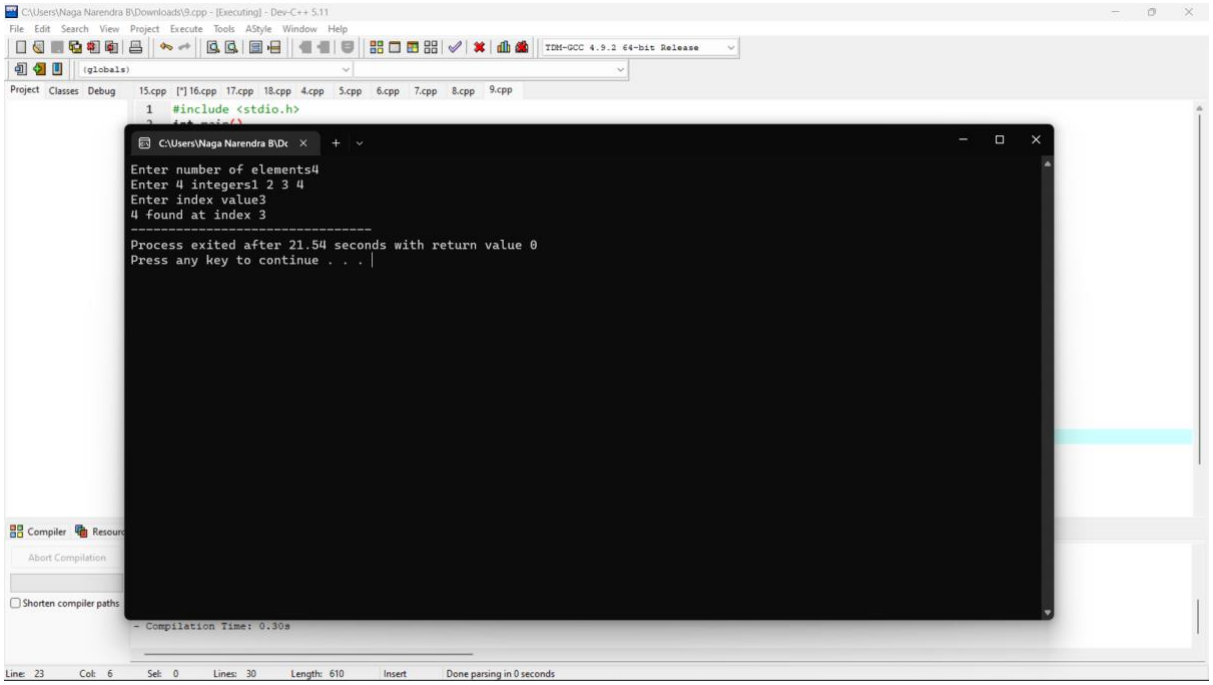
9.binary search :-

```
#include <stdio.h>
int main()
{
int a[20],i, low, high, mid, n, key;
printf("Enter number of elements");
scanf("%d",&n);
printf("Enter %d integers", n);
for(i = 0; i < n; i++)
scanf("%d",&a[i]);
printf("Enter index value");
scanf("%d", &key);
low = 0;
high = n - 1;
mid = (low+high)/2;
while (low <= high) {
if(a[mid] < key)
low = mid + 1;
else if (a[mid] == key)
{
printf("%d found at index %d",i, key, mid+1);
break;
}
else
high = mid - 1;
mid = (low + high)/2;
}
if(low > high)
printf("Not found! %d isn't present in the list.n",i, key);
return 0;
}
```

Output :-


C:\Users\Naga Narendra B\Downloads\9.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
15.cpp [*] 16.cpp 17.cpp 18.cpp 4.cpp 5.cpp 6.cpp 7.cpp 8.cpp 9.cpp
1 #include <stdio.h>
C:\Users\Naga Narendra B\Dc
Enter number of elements4
Enter 4 integers1 2 3 4
Enter index value3
4 found at index 3
Process exited after 21.54 seconds with return value 0
Press any key to continue . . .
Compiler
Abort Compilation
Shorten compiler paths
- Compilation Time: 0.30s
Line: 23 Col: 6 Sel: 0 Lines: 30 Length: 610 Insert Done parsing in 0 seconds