```
#linear_sort
import time
import matplotlib.pyplot as plt
start=time.time()
pos=-1
def linear_search(list,a):
    i=0
    while i<len(list):
      if list[i]==a:
         globals()['pos']=i
         return True
    i=i+1
    return false

list=[5,3,4,2,8,9]
a=int(input("enter key to be search:"))
if linear_search(list,a):
    print("number found at:",pos+1,"position")
else:
    print("number not found")
end=time.time()
print("run time of program",end-start)
x=list[0:1000]
plt.plot(x,[y for y in x])
plt.title("linear search time complexity is O(n)")
plt.xlabel("input")
plt.ylabel("Time")
plt.show()
```

**********output**********

```
enter key to be search:2
number found at: 1 position
run time of program 1.369823694229126
```