Bangladesh Open University

School of Science and Technology

Bsc in Computer Science and Engineering

Lab report no.   : lab-02.

Report on   : Stack

Course title   : Data Structure Lab

Course code   : CSE21P6

Submitted By :

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Implement linear search.

```python
print ("-----Lnear Search-----")


def leaner_search(data):
    list = []
    for x in data:
        list.append(x)
    print ("[##] data is recorded .. Now Search Data in Record")
    def run():
     print("-"*10)
     search_data = raw_input("[+]Input for Search data in record==>")
     for x in list:
        if search_data in x:
           print ("[+] Your input ({}) data is found in ({}) this Record ".format(search_data,x))
        else:
           print("[!!!] Your input ({}) data Is NOT found in ({}) this recoderd ".format(search_data,x))
     while 1: run()


if __name__ == "__main__":
   data = raw_input("[+]input data For Store (Use Space) ===>").split(',')

   leaner_search(data)
```

```
Administrator:  Rafsan@Coder Terminal - lenear_search.py            _  □  ×

"Rafsan@Coder >>"ls
binary_search.py        bubool.exe            insert_short.c          postfix.py
bubble_short.c          insert.exe            lenear_search.py        stack_using_array.py

"Rafsan@Coder >>"lenear_search.py
-----Lnear Search-----
[+]input data For Store (Use Space) ===>1 2 3 4 5 6 7
[##] data is recorded .. Now Search Data in Record
----------
[+]Input for Search data in record==>3
[+] Your input (3) data is found in (1 2 3 4 5 6 7) this Record
----------
[+]Input for Search data in record==>9
[!!!] Your input (9) data Is NOT found in (1 2 3 4 5 6 7) this recoderd
----------
[+]Input for Search data in record==>
```

implement binary search.

```python
print ("-------Binary Search -------")


def binary_search(data):
    global inp_data
    global list
    list = []
    for x in data:
        list.append(x)
    print ("-"*10)
    print ("[+]Record Data in list")
    print ("-"*10)
```

```python
    inp_data = raw_input("[+] Now Search data ===>")
    last = 0
    high = len(list)-1
    mid = 0
    while last<=high:
        mid = (high+last)//2
        if list[mid] <inp_data:
            last = mid+1
        elif list[mid]>inp_data:
            high=mid-1
        else:
            return mid
    return -1



if __name__ == "__main__":
    global inp_data
    global list
    data = raw_input("[+] Insert Data (Use Space) ===>").split(' ')
    result = binary_search(data)
    if result != -1:
        print ("#"*10)
        print ("[+] Yes Your input data ({}) is found in ({}) ".format(inp_data,list))
    else:
        print ("!"*10)
        print ("[-] No Your data ({}) is not found in  ({}) ".format(input_data,list))
```

OUT PUT

```
"Rafsan@Coder >>"ls
binary_search.py          bubool.exe              insert_short.c          postfix.py
bubble_short.c            insert.exe              lenear_search.py        stack_using_array.py

"Rafsan@Coder >>"binary_search.py
-------Binary Search -------
[+] Insert Data (Use Space) ===>1 2 3 4 5
----------
[+]Record Data in list
----------
[+] Now Search data ===>1
##########
[+] Yes Your input data (1) is found in (['1', '2', '3', '4', '5'])

"Rafsan@Coder >>"binary_search.py
-------Binary Search -------
[+] Insert Data (Use Space) ===>1 2 3 4 5
----------
[+]Record Data in list
----------
[+] Now Search data ===>6
!!!!!!!!!!
[-] No Your data (6) is not found in  (['1', '2', '3', '4', '5'])

"Rafsan@Coder >>"
```