



DATA STRUCTURES AND ALGORITHMS LABORATORY

EndSem Practical Examination
SPPU AY 2020-21
Semester :- 2



SUBMITTED BY :-

NAME :- OJUS PRAVIN JAISWAL
SEAT NO. :- S191094290
ROLL NO. :- SACO19108
DIVISION :- A

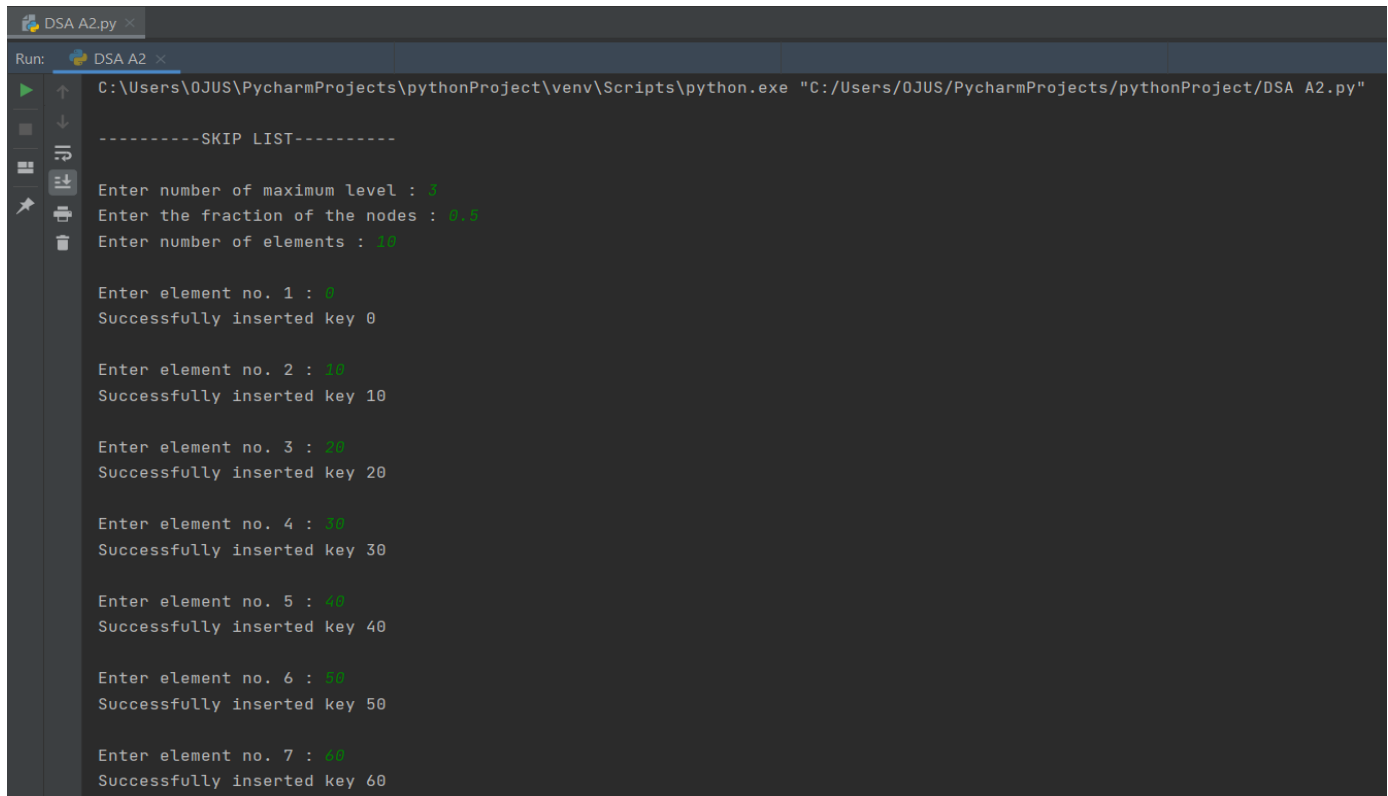
Group : A

Practical No. : 2

Problem Statement :- For given set of elements create skip list. Find the element in the set that is closest to some given value. (note: Decide the level of element in the list Randomly with some upper limit)

Solution :-

Output :



```
DSA A2.py x
Run: DSA A2 x
C:\Users\OJUS\PycharmProjects\pythonProject\venv\Scripts\python.exe "C:/Users/OJUS/PycharmProjects/pythonProject/DSA A2.py"

-----SKIP LIST-----
Enter number of maximum level : 3
Enter the fraction of the nodes : 0.5
Enter number of elements : 10

Enter element no. 1 : 0
Successfully inserted key 0

Enter element no. 2 : 10
Successfully inserted key 10

Enter element no. 3 : 20
Successfully inserted key 20

Enter element no. 4 : 30
Successfully inserted key 30

Enter element no. 5 : 40
Successfully inserted key 40

Enter element no. 6 : 50
Successfully inserted key 50

Enter element no. 7 : 60
Successfully inserted key 60
```

```
DSA A2.py x
Run: DSA A2 x

Enter element no. 8 : 70
Successfully inserted key 70

Enter element no. 9 : 80
Successfully inserted key 80

Enter element no. 10 : 90
Successfully inserted key 90

-----Menu-----
1) Insert an element in skip list
2) Display the skip list
3) Search an element in skip list
4) Exit the program
Enter your choice : 1

Enter new element : 55
Successfully inserted key 55
```

```
DSA A2.py x
Run: DSA A2 x

-----Menu-----
1) Insert an element in skip list
2) Display the skip list
3) Search an element in skip list
4) Exit the program
Enter your choice : 2

*****Skip List*****
Level 0:  0 10 20 30 40 50 55 60 70 80 90
Level 1:  0 10 30 60 80 90
Level 2:  30 60 80
Level 3:  30 80

-----Menu-----
1) Insert an element in skip list
2) Display the skip list
3) Search an element in skip list
4) Exit the program
Enter your choice : 3
Enter element to be searched : 54
Closest value 55

-----Menu-----
1) Insert an element in skip list
2) Display the skip list
3) Search an element in skip list
4) Exit the program
Enter your choice : 4
Program Exited!!!
```