Computing Fundamentals using Python

SUBJECT CODE : UQ25CA151A

Samyukta D Kumta

Computer Applications

Linear Search Algorithm

Linear search using different datatypes

1. List
2. String
3. Tuple
4. Dictionary
5. Set

Program to demonstrate Linear search using Lists

```
numbers = [5, 3, 8, 6, 2]
target = int(input("Enter the number to search: "))
found = False
for i in range(len(numbers)):
    if numbers[i] == target:
        print(f"{target} found at index {i}")
        found = True
        break
if not found:
    print(f"{target} not found in the list")
```

Program to demonstrate Linear search using String

```
text = "hello world"
target = "o"
# read input from user
found = False
for i in range(len(text)):
    if text[i] == target:
        print(f"'{target}' found at index {i}")
        found = True
        break
if not found:
    print(f"'{target}' not found in the string")
```

Program to demonstrate Linear search using Tuple

```
numbers = (10, 20, 30, 40, 50)
target = 30
#input from user
for i in range(len(numbers)):
    if numbers[i] == target:
        print(f"{target} found at index {i}")
        break
else:
    print(f"{target} not found in the tuple")
```

Program to demonstrate Linear search using Dictionary

```
data = {"a": 1, "b": 2, "c": 3}
target = "b"
# Read from user
for key in data:
    if key == target:
        print(f"Key '{target}' found with value {data[key]}")
        break
else:
    print(f"Key '{target}' not found")
```

Program to demonstrate Linear search using Sets

```
myset = {2, 4, 6, 8, 10}
target = 6

found = False
for item in myset:
    if item == target:
        print(f"{target} found in the set")
        found = True
        break

if not found:
    print(f"{target} not found in the set")
```

THANK YOU

Samyukta D Kumta
Department of Computer Applications
samyuktad@pes.edu