

TELECOMMUNICATION SOFTWARE LABORATORY (ELP718)

REPORT Assignment Number:7

Submitted By

POOJA
(2016JTM2083)

SEMESTER-I
YEAR-2016

Due Date- 12 sept 2016



INDIAN INSTITUTE OF TECHNOLOGY DELHI

(Hauz Khas, New Delhi)

Table of Content

Contents

1	Introduction:	3
2	Problem Statement-1	4
3	Structure Chart	5
4	Implementation	6
4.1	Input:	6
4.2	Output:	6
4.3	Algorithm:	6
5	Screenshots	7
6	Problem Statement-2	8
7	Structure Chart	9
8	Implementation	10
8.1	Input:	10
8.2	Output:	10
8.3	Algorithm:	10
9	Screenshots	11
10	Problem Statement-3	12
11	Structure Chart	13
12	Implementation	14
12.1	Input:	14
12.2	Output:	14
12.3	Algorithm:	14
13	Screenshots	15

List of Figures

1	Flow Chart for problem statement 1	5
2	Output for problem statement 1	7
3	Flow Chart for problem statement 2	9
4	Output for problem statement 2	11
5	Flow Chart for problem statement 3	13
6	Output for problem statement 3	15

1 Introduction:

Python

Python is a widely used high-level, general-purpose, interpreted, dynamic programming language. Its design philosophy emphasizes code readability, and its syntax allows programmers to express concepts in fewer lines of code than possible in languages such as C++ or Java. The language provides constructs intended to enable writing clear programs on both a small and large scale.

Python supports multiple programming paradigms, including object-oriented, imperative and functional programming or procedural styles. It features a dynamic type system and automatic memory management and has a large and comprehensive standard library.

Python interpreters are available for many operating systems, allowing Python code to run on a wide variety of systems. Using third-party tools, such as Py2exe or Pyinstaller, Python code can be packaged into stand-alone executable programs for some of the most popular operating systems, so Python-based software can be distributed to, and used on, those environments with no need to install a Python interpreter.

CPython, the reference implementation of Python, is free and open-source software and has a community-based development model, as do nearly all of its variant implementations.

CPython is managed by the non-profit Python Software Foundation.

GitHub

GitHub is a web-based Git repository hosting service. It offers all of the distributed version control and source code management (SCM) functionality of Git as well as adding its own features. It provides access control and several collaboration features such as bug tracking, feature requests, task management, and wikis for every project.

GitHub offers both plans for private repositories, and free accounts which are commonly used to host open-source software projects. As of April 2016, GitHub reports having more than 14 million users and more than 35 million repositories, making it the largest host of source code in the world.

The trademark mascot of GitHub is Octocat, an anthropomorphized cat with cephalopod limbs, portrayed in a manga style.

2 Problem Statement-1

- Write a python program that can take a input string using command line
- Count number of times a word occurs in the input string
- Print top 3 words in terms of frequency
- Print next permutation of each word appearing in the string.

3 Structure Chart

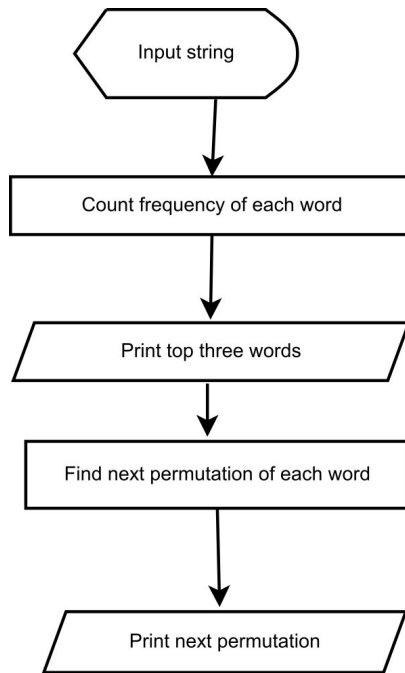


Figure 1: Flow Chart for problem statement 1

4 Implementation

4.1 Input:

1. A string

4.2 Output:

1. Top 3 words
2. Next permutation of each word

4.3 Algorithm:

- Input a large string.
- Find frequency of each word
- Print top 3 words
- Find next permutation of each word

5 Screenshots

```
pooja@administrator:~$ cd Desktop/
pooja@administrator:~/Desktop$ ls
assign7 Test01.txt
pooja@administrator:~/Desktop$ cd assign7/
pooja@administrator:~/Desktop/assign7$ PYTHON psi.py rahul pooja pooja tayal poo
ja rahul pooja
PYTHON: command not found
pooja@administrator:~/Desktop/assign7$ python psi.py rahul pooja pooja tayal poo
ja rahul pooja
['rahul', 'pooja', 'pooja', 'tayal', 'pooja', 'rahul', 'pooja']
['pooja': 4, 'tayal': 2, 'rahul': 2]
['pooja', 'rahul', 'tayal']
pooja@administrator:~/Desktop/assign7$
```

Figure 2: Output for problem statement 1

6 Problem Statement-2

- Generate user location using random function generator
- Find no of users within unit radius
- calculate result in terms of percentage

7 Structure Chart

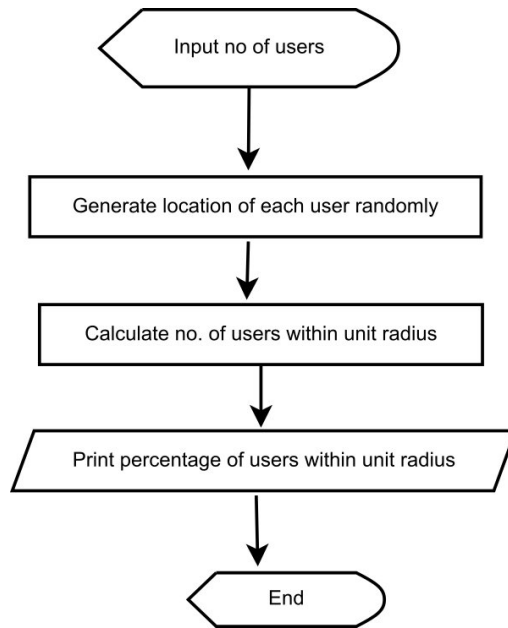


Figure 3: Flow Chart for problem statement 2

8 Implementation

8.1 Input:

1. Number of users in locality

8.2 Output:

1. Percentage of users within unit radius

8.3 Algorithm:

- input no. of users
- Generate location of each user randomly
- Calculate distance of each user from origin
- Calculate no. of users within unit radius
- Print the percentage of users within unit radius

9 Screenshots

```
pooja@administrator:~$ cd desktop/
pooja@administrator:~/Desktop$ cd assign7/
pooja@administrator:~/Desktop/assign7$ python ps2.py
Enter number of users
80
No. of users in unit radius: 68
percentage of users in unit radius: 85.0
pooja@administrator:~/Desktop/assign7$
```

Figure 4: Output for problem statement 2

10 Problem Statement-3

- create database with default address
- Find machine readable collection centre no
- Find human readable collection center no

11 Structure Chart

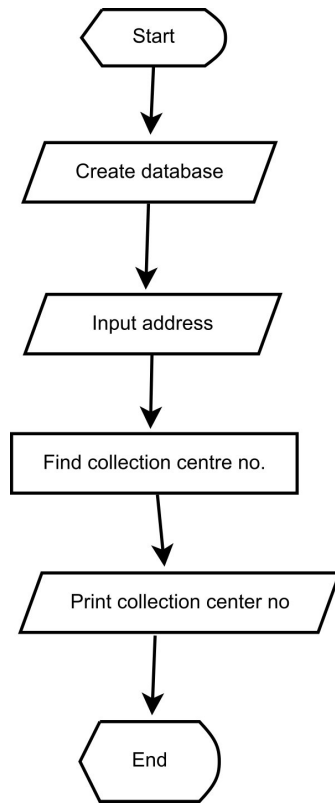


Figure 5: Flow Chart for problem statement 3

12 Implementation

12.1 Input:

1. Input all the parameters to create database

12.2 Output:

1. Collection center number

12.3 Algorithm:

- Create database
- Input user information
- Find machine readable collection center no
- Find human readable collection center no

13 Screenshots

```
pooja@administrator:~$ cd Desktop/
pooja@administrator:~/Desktop$ ls
assign7 Test01Hub
pooja@administrator:~/Desktop$ cd assign7/
pooja@administrator:~/Desktop/assign7$ python ps3.py
File "ps3.py", line 15
    if (choice==1):
    ^
IndentationError: unexpected indent
pooja@administrator:~/Desktop/assign7$
```

Figure 6: Output for problem statement 3

References

- [1] python
docs.python.org
- [2] Python Tutorial
<https://www.tutorialspoint.com//python/index.htm>
- [3] GitHUb
<https://github.com/>
- [4] latex
<https://www.sharelatex.com>