

TELECOM SOFTWARE LAB



Assignment - 7

Course : ELP - 718 - Telecom Software Laboratory

Year : I M.Tech.

Semester : I

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1 Introduction

Python is a general-purpose interpreted, interactive, object-oriented, and high-level programming language. It was created by Guido van Rossum during 1985- 1990. Like Perl, Python source code is also available under the GNU General Public License(GPL).

Advantages of using python -

- Easy-to-learn: Python has few keywords, simple structure, and a clearly defined syntax. This allows the student to pick up the language quickly.
- Easy-to-read: Python code is more clearly defined and visible to the eyes.
- Easy-to-maintain: Python's source code is fairly easy-to-maintain.
- Databases: Python provides interfaces to all major commercial databases.
- Portable: Python can run on a wide variety of hardware platforms and has the same interface on all platforms.

2 Problem Statement

PS-1

Python program that can take a big string (with spaces) as input from the command line and count number of times a word occurs in the string and also print the top 3 words in terms of their frequency of count. Also print the next permutation.

PS-2

You are designing a Graphical user Interface (GUI) to depict the location of a mobile user in a square whose corner points are (1,1) (-1,1) (1,-1)(-1,-1). In real life, the users location would come from a database available with the MSC.

For the moment, generate the user location using the random function generator function in Python to generate a number between [0,1).

Finally calculate number of points that lie inside unit radius circle in terms of percentage.

PS-3

You have to design an addressing code for a shipping company that works all around India. The address given by the customer is split into fields. Generate a CC_No and a readable code for the above.

3 Algorithm

PS-1

- Enter a raw string in inp variable.
- Split the string and store it in inp2.
- Calculate the frequency of the top three frequent words. This is done by sorting the list and then printing the first three.

PS-2

- Make a random data for 100 users using random function.
- Find the number of users which have a distance less than 1 unit from the origin i.e. BTS.
- Calculate the percentage of people in the unit circle.

PS-3

- Ask for input and store in variables house, dist, city and state.
- Create a default database using separate dictionary for city, state and district.
- Append the data if the default database doesn't suffice.
- make different codes for district city and state and finally concatenate the code in ccno.
- To make the readability code take the first three letters from strings city dist and state and print along with ccno.

4 Implementation

4.1 Subprogram Name

PS-1

ps1.sh

PS-2

ps2.sh

PS-3

ps3.sh

4.2 Inputs

PS-1

Input format-
User Input

PS-2

Through random function

PS-3

Default database

4.3 Outputs

PS-1

Output format
Top three highest frequency words
Next permutation

PS-2

Output format

Percentage of users in the unit circle

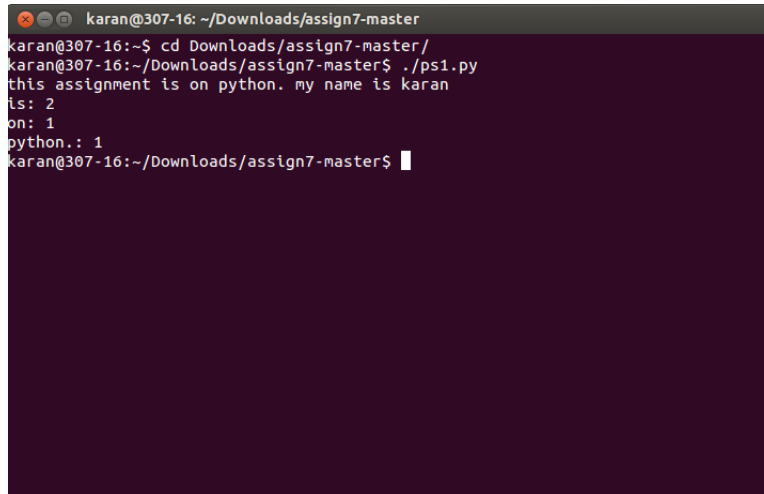
PS-3

ccno

Readability code

5 Screenshots

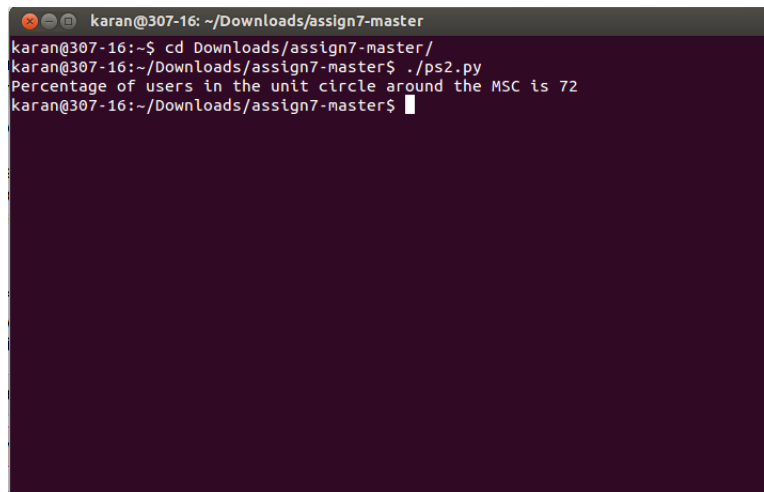
PS-1

A terminal window with a dark purple background. The title bar shows 'karan@307-16: ~/Downloads/assign7-master'. The terminal text shows the user navigating to the directory and running a Python script.

```
karan@307-16:~$ cd Downloads/assign7-master/  
karan@307-16:~/Downloads/assign7-master$ ./ps1.py  
this assignment is on python. my name is karan  
is: 2  
on: 1  
python.: 1  
karan@307-16:~/Downloads/assign7-master$
```

Figure 1: Screenshot(PS-1)

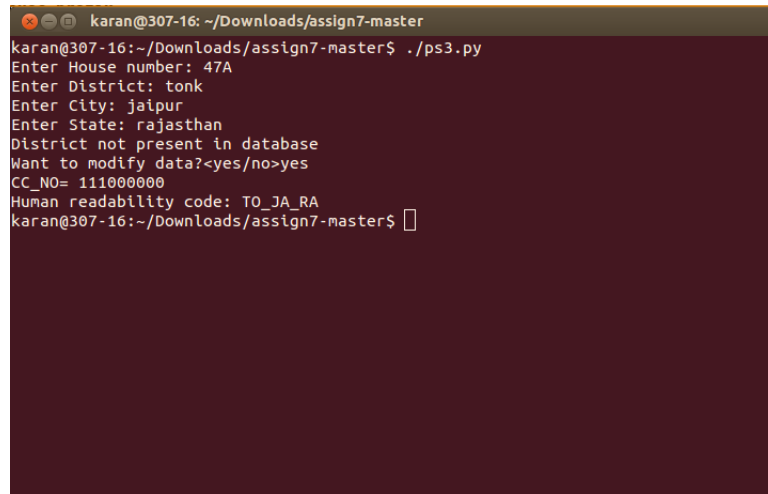
PS-2

A terminal window with a dark purple background. The title bar shows 'karan@307-16: ~/Downloads/assign7-master'. The terminal text shows the user running a Python script that outputs a percentage.

```
karan@307-16:~$ cd Downloads/assign7-master/  
karan@307-16:~/Downloads/assign7-master$ ./ps2.py  
Percentage of users in the unit circle around the MSC is 72  
karan@307-16:~/Downloads/assign7-master$
```

Figure 2: Screenshot(PS-2)

PS-3



```
karan@307-16: ~/Downloads/assign7-master
karan@307-16:~/Downloads/assign7-master$ ./ps3.py
Enter House number: 47A
Enter District: tonk
Enter City: jaipur
Enter State: rajasthan
District not present in database
Want to modify data?<yes/no>yes
CC_NO= 111000000
Human readability code: TO_JA_RA
karan@307-16:~/Downloads/assign7-master$
```

Figure 3: Screenshot(PS-3)

6 Epilogue

1. The permutation in the PS1 was a difficult area.
2. Got to learn the powerful string functions in python.
3. Accessing data from dictionary is the part I need to focus on.

References

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