

Lists: In simple language, a list is a collection of things, enclosed in [] and separated by commas.

Tuples: Tuple is a collection of Python objects much like a list. The sequence of values stored in a tuple can be of any type, and they are indexed by integers.

Dictionaries: Dictionaries are a collection of keys values, used to store data values like a map, which, unlike other data types which hold only a single value as an element.

Sets: Set is an unordered collection data type that is iterable, mutable and has no duplicate elements.

While Loop:

In python, a while loop is used to execute a block of statements repeatedly until a given condition is satisfied. And when the condition becomes false, the line immediately after the loop in the program is executed.

For Loops:

For loops are used for sequential traversal. For example: traversing a list or string or array etc. In Python, there is "for in" loop which is similar to for each loop in other languages. Let us learn how to use for in loop for sequential traversals.

Classes:

Python is an object oriented language. Almost everything in Python is an object, with its properties and methods. A Class is like an object constructor, or a "blueprint" for creating objects.

Objects:

Objects are instance of a class. Python Objects are basically an encapsulation of data variables and methods acting on that data into a single entity.

```

shlp_0034@SHTLP0034:~/Documents/python$ /bin/python3 /home/sh
shlp_0034/Documents/python/lists.py
john ['john', 23, 'trivia']
0
[1, 3, 4, 6, 13224]
shlp_0034@SHTLP0034:~/Documents/python$

```

Lists and Tuples

```

shlp_0034@SHTLP0034:~/Documents/python$ /bin/python3 /home/sh
shlp_0034/Documents/python/lists.py
january december
not available

```

Dictionary

```

shlp_0034@SHTLP0034:~/Documents/python$ /bin/python3 /home/sh
shlp_0034/Documents/python/lists.py
enter a guess:try
enter a guess:lock
enter a guess:bruh
you won

```

Guess game

```

shlp_0034@SHTLP0034:~/Documents/python$ /bin/python3 /home/sh
shlp_0034/Documents/python/lists.py
john
johnny boy
jimmy
pietroo
john
johnny boy
jimmy
pietroo
division by zero

```

For loop

```

shlp_0034@SHTLP0034:~/Documents/python$ /bin/python3 /home/sh
shlp_0034/Documents/python/lists.py
81
division by zero

```

Exponential function

```
1
2
3
5
4
2
4
6
7
Hi HOW ARE YOU
H/ H/W /R/ Y//
division by zero
```

2d list and reader game

```
shtlp_0034@SHTLP0034:~/Documents/python$ /bin/python3 /home
which one is a color:
  a. red
  b. wer
  c. wsdf
Your answer:a
which one is an actor:
  a. you
  b.you
  c. not you
Your answer:c
which one is a cat sound:
  a. purr
  b. meow
  c. bark
Your answer:b
your score:2/ 3
```

MCQ Game using classes and objects

```
shtlp_0034@SHTLP0034:~/Documents/python$ /bin/python3 /home/shtlp_00
{True, 34, 'male', 40, 'abc'}
shtlp_0034@SHTLP0034:~/Documents/python$ /bin/python3 /home/shtlp_00
{True, 34, 'abc', 'male', 40}
shtlp_0034@SHTLP0034:~/Documents/python$ /bin/python3 /home/shtlp_00
{0, 1}
shtlp_0034@SHTLP0034:~/Documents/python$ /bin/python3 /home/shtlp_00
{1}
shtlp_0034@SHTLP0034:~/Documents/python$ /bin/python3 /home/shtlp_00
{1}
<class 'set'>
```

Sets