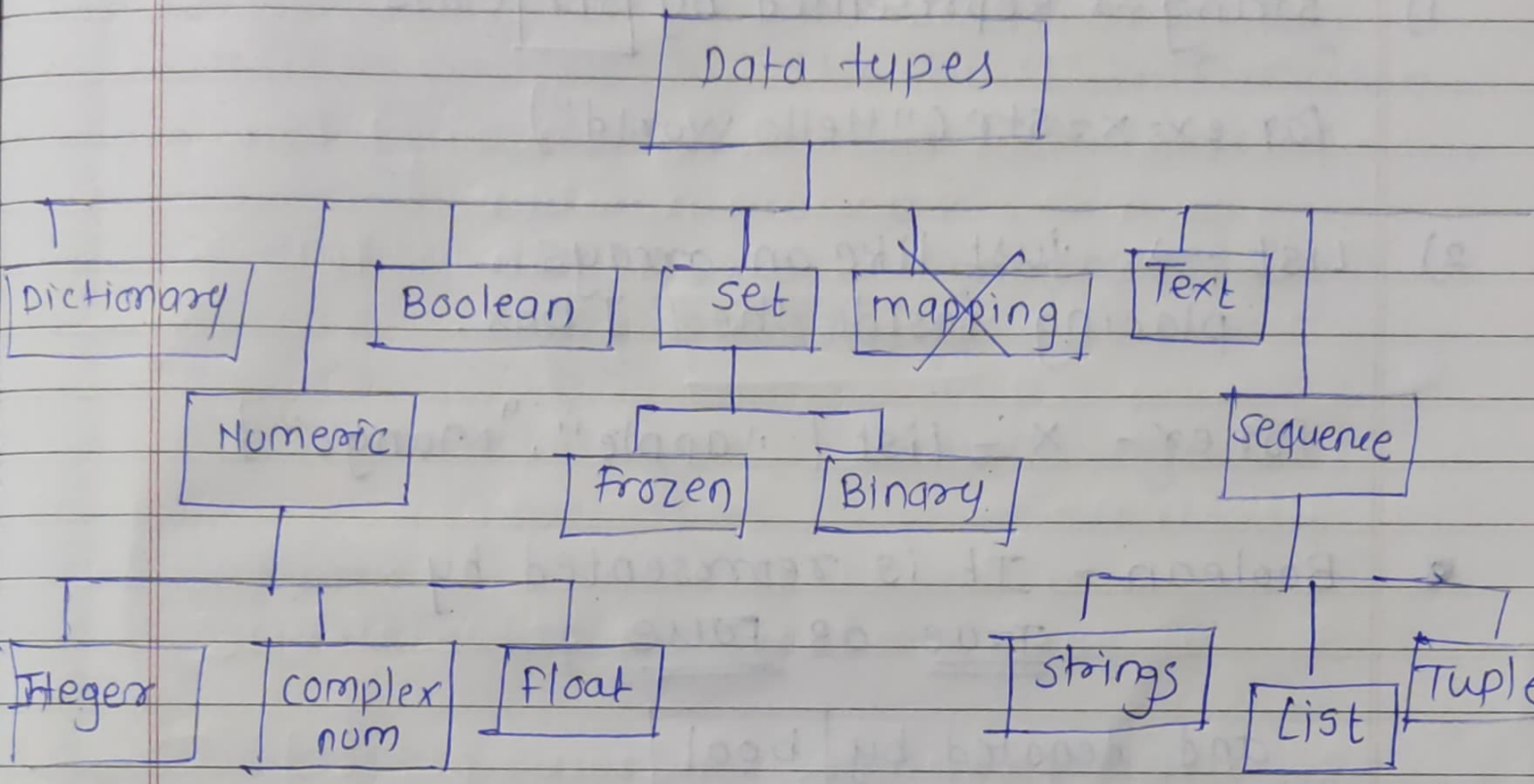
we have learned about Types of Datatypes.



~~1) Integer -~~

- Numeric -

1) Integer → represented by int class, contain positive, negative, whole numbers.

2) Float → Represented by Float class.

Specified by decimal point.

3) Complex Numbers → represented by complex class

Specified by real No. + imaginary part

for ex - -5+2j

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- Sequence Type

1) string → Represented by `str` class

for ex: x = str("Hello world")

2) List → just like an arrays placing inside the [ ] box.

For ex - x = list ["apple", "Mango"]

- Boolean - It is represented by True or False

and denoted by `bool`

ex → x = bool(5)

- set Type - collection of unique intity

1) Frozenset -

x = frozenset(("apple", "Mango"))

2) Bytes - x = bytes(5)

3) Bytearray → x = bytearray(5)

4) memoryview(bytes(5))

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- Dictionary - used to store data values like a map

- It is created by the built_in Function `dict()`.

empty dictionary can be created by curly braces {}

```
x = dict(name = "sonu", age=20)
```

we have learned about random_number program.

- python does not have random() fun. to make random number.
but python has a built-in module called : Random

program -

```
1. import random  } # module use
2. print (random.randrange(1, 10))
```

output

```
1
```

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String programs:

- Strings Are array

  ✱ (First character has the position 0)

1. a = "Hello"
   print (a[0]) → (Find word of their given position)

   output = H

- String length

  a = "Hello"
  print (len(a))

  output = 5

- check string

  check if free is present or not

  a = "Hello world"
  print ("free" in a)

  output - False

- check is NOT

print.

txt = "The best thing"
print ("sorry" not in text)

- String slicing

- return a renge of character
- specify the start index and end index seperated by colon. in []

Here a tric → [ ]

This square bracket is our bread and we used ~~the colon~~ to cut bread in the middle with the help of colon (:)

- string slicing program

1 ⇒ String = "Pranali"

2. print (String [0:4] , [start: END]

Then

0	1	2	3	4	5	6
P	r	a	n	a	l	i
-7	-6	-5	-4	-3	-2	-1

END - NO

output - pranal

String slicing from start

```
1 string="HELLOWORLD"
2 print(string[ :10]    # इथे काही नाही मग starting चे आगळे word आवते
```

output - HELLOWORL

string slicing to end

```
print(string[3: ]    # -11- end word-
```

output - LOWORLD

negative string slicing

```
print(string[-1:-5]
```

output- DLROWO

Work :- Create a one string and find any word in the string as well as string slicing from start

string - Government Polytechnique Pune

find ment is present ?

slicing [:-8]

(1) Type casting into to Float.

* I use Float() function

```
1. x = 5
2. n = Float(x)    # Float Function
3. print(n)
4. print(type(n))
```

output = 5.0
<class 'Float'>

(2) Type casting Float to int.

* I use int() function

```
1. x = 2.5
2. n = Float(x)
3. print(n)
4. print(type(n))
```

output = 2.
<~~class 'int~~
<class 'int'>

String - Government Polytechnic Pune
Find - 'ment' is present in string ?
String slicing From start to polytechnic 'c' word
Find length.

program -

```
1. String = " Government Polytechnic Pune
2. print (len (string))
3. print ("ment" in string)
4. print (string [ : -5]
```

Output -

```
27
True
Goverment Polytechnic
```