



Python Refresher - 2

⇒ ① Data Structures

↳ List → List Comprehension

Tuple

Sets → Set Operations

Dictionaries

② Strings

③ Python memory

Recap Shallow Copy → effectively only memory reference
get

Deep Copy →

⇒ Immutable Objects → actual values are passed

Mutable Objects → Only references are passed

⇒ ① List = ??

② Tuples = ??

Dict → key value pair

Collection
of

→ Dict → mutable
↳

Dict = { key₀: value₀,
key₁: value₁, ... }

key → Can they be mutable ??

Keys must be immutable

No restriction on values → mutable

Q: Keys are unique

Dictionary → Forms → Key-value pair (Dict)
JSON → Dict

Dictionary | Mapping | → _____, Dict
encoding

Sets →
→ Collection of unique values.
→ non-indexable
→ Iterable
→ ~~Mutable~~
→ ordered
→ Can only contain immutable objects.

As set can take any
immutable
object

Str
Int
float
Tuple

} as it is heterogeneous
order cannot
be decided

Sets are unordered

Set Operations →

A → { 1, 2, 3 }
B → { 1, 3, 4, 5 }

* Intersection → common elements b/w 2 sets { 1, 3 }

* Union → all elements across both sets

{ 1, 2, 3, 4, 5 }

* Difference $\rightarrow A = \{1, 2\}$

$$B = \{1, 3, 4, 5\}$$

A - B

Elements in A which are not present in B = $\{2\}$

B - A

Elements in B

$$A = \{3, 4, 5\}$$

* Symmetric Difference \rightarrow

Element only present in 1 set.

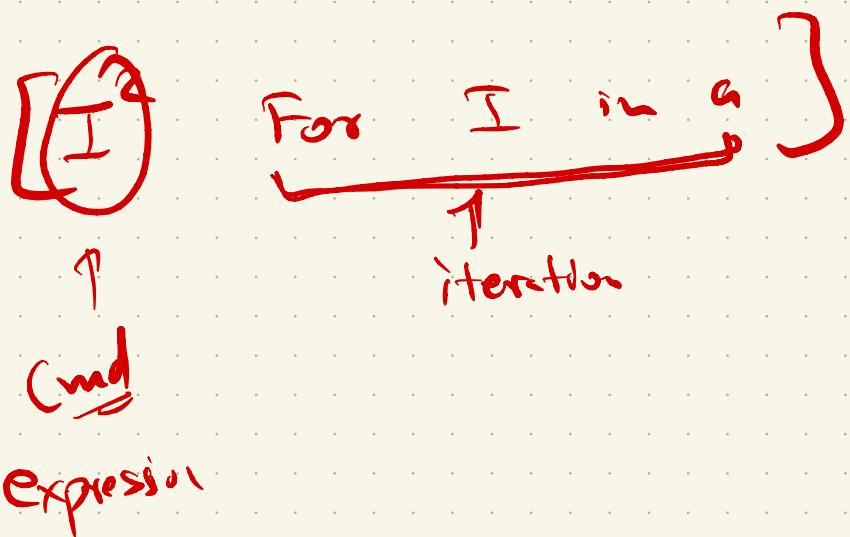
$$(A - B) \cup (B - A) = \{2, 3, 4, 5\}$$

$$\underline{(A \cup B)} - \underline{(A \cap B)}$$

$$\underline{\underline{A \cdot B}}$$

⇒ List Comprehension

For I in a :
 (I^2)



⇒ [if $i \% 2 == 1$:
 i^2
 else : i^3]

< If True > IF <Cond> ELSE < False value >

$$\Rightarrow P(A|B) = \frac{P(A \cap B)}{P(B)}$$

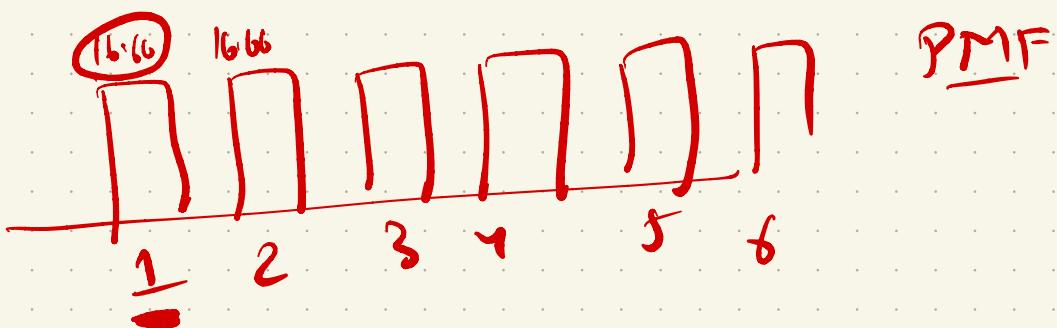
Independent Events \rightarrow B has no impact over A.

$$\underline{P(A)} = \underline{P(A|B)}$$

for independent events

$$P(A \cap B) = P(A) P(B)$$

Dice Roll \rightarrow 6 possibilities $\rightarrow \frac{1}{6} = 16.66\% \text{ chance}$



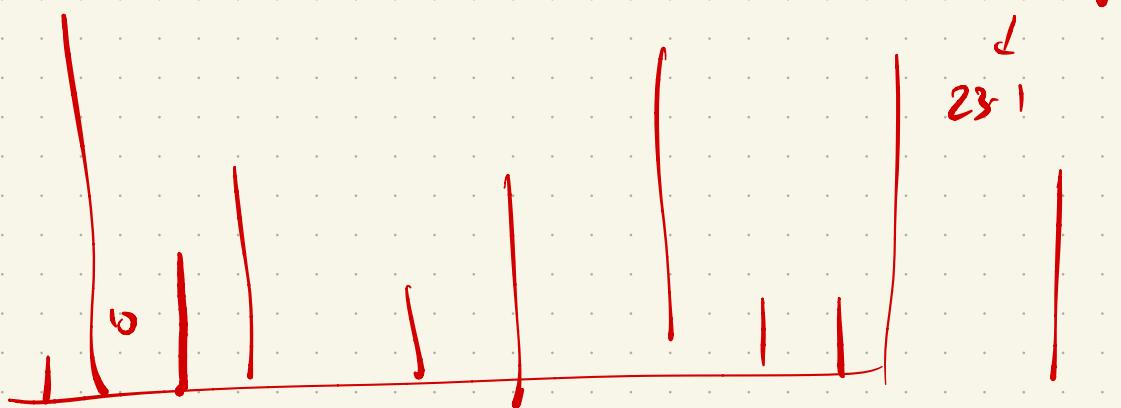
Continuous variable \rightarrow [

23.1	-10
24.2	-20
25.7	-30
25.8	-40

23.1 \rightarrow 10 days
24.2 \rightarrow 12 days

∴ 23.5°C Cannot happen

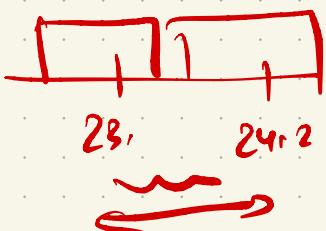
If we plot a graph for Continuous vari

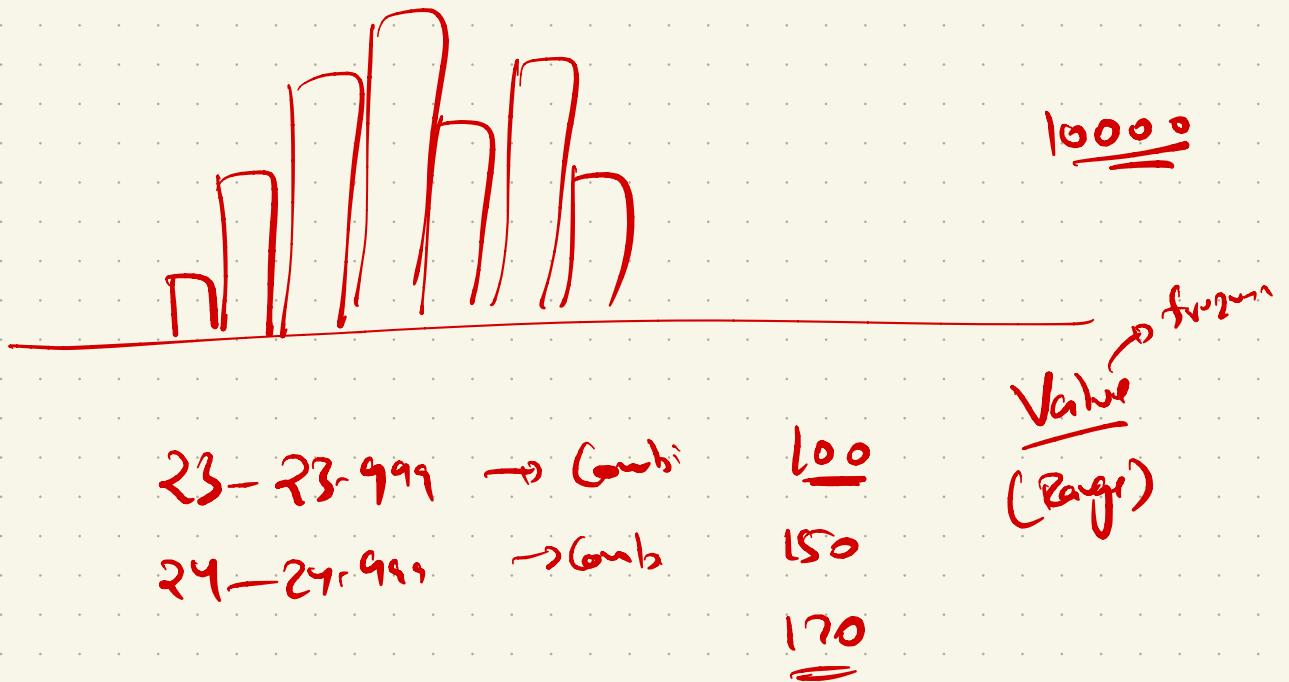


rather than
disj-g

23.1 \rightarrow levels
 24.2 \rightarrow 15 val

Take values = density 1.17
Range funct





100 values → 23-23.999

Value
Range

250 vals → 23-24.99

250
2

JSON → (Text format to share data over internet

JavaScript Object Notation

key value pair
keyway of saying

{ () : }

3

Collab link: https://colab.research.google.com/drive/14IZqhyQynniVqriJs7ZHMZe83D_hK_0y?usp=sharing