

## Part 1: chai\_types and chai\_types\_copy

python

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```
>>> chai_types["Black"] = "Mild" >>> chai_types {'Masala': 'Spicy', 'Black': 'Mild'}
```

- `chai_types` is a **dictionary** (key-value pair).
- It starts with a key "Masala" and value "Spicy" .
- Then a new key "Black" is added with value "Mild" .
- Now the dictionary looks like:

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```
{'Masala': 'Spicy', 'Black': 'Mild'}
```

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```
>>> chai_types_copy {'Masala': 'Spicy'}
```

- `chai_types_copy` is a **copy** of the original `chai_types` before "Black" was added.
- So, it still only has:

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```
{'Masala': 'Spicy'}
```

## Part 2: Nested Dictionary ( tea\_shop )

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```
tea_shop = { "chai": {"Masala": "Spicy", "Ginger": "Zesty"}, "Tea": {"Green": "Mild",  
"Black": "Strong"} }
```

- `tea_shop` is a **dictionary containing dictionaries**.
- It has two main keys: "chai" and "Tea" .

- Each of those is itself a dictionary:
  - "chai" contains "Masala": "Spicy" and "Ginger": "Zesty"
  - "Tea" contains "Green": "Mild" and "Black": "Strong"

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```
tea_shop["chai"]
```

- This returns the value for "chai", which is:

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```
{'Masala': 'Spicy', 'Ginger': 'Zesty'}
```

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```
tea_shop["Tea"]
```

- This returns:

```
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```

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```
{'Green': 'Mild', 'Black': 'Strong'}
```

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```
tea_shop["Tea"]["Black"]
```

- This goes **one level deeper**:
  - First gets "Tea" dictionary
  - Then gets the value of "Black" inside it: "Strong"

## Part 3: Dictionary Comprehension

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```
squared_num = {x: x**2 for x in range(6)}
```

- This is a **dictionary comprehension** — a quick way to create dictionaries.
- `range(6)` means numbers from 0 to 5.
- Each key is `x` and each value is `x**2` (`x` squared).
- So the dictionary is:

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```
{0: 0, 1: 1, 2: 4, 3: 9, 4: 16, 5: 25}
```

Accessing values:

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```
squared_num[0] # 0 squared = 0 squared_num[5] # 5 squared = 25 squared_num[3] # 3 squared  
= 9 squared_num[2] # 2 squared = 4
```

## Part 4: Clear Dictionary

```
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```
squared_num.clear()
```

- This **clears** the entire dictionary `squared_num`.
- After this, it becomes an empty dictionary: `{}`

## Summary (in real-world terms):

- `chai_types` is like a menu of tea flavors.
- `tea_shop` is like a big menu board with sections — “chai” and “Tea”.
- You use square brackets `[]` to look up or add new items.
- Dictionary comprehension quickly builds a dictionary (e.g., a table of squares).
- `.clear()` wipes the entire dictionary clean.