1. Creating Strings

Strings can be created using **single quotes**, **double quotes**, or **triple quotes**.

```
name = 'Athar'
city = "Doha"

paragraph = """This is a
multi-line
string"""
```

---

2. Accessing Characters (Indexing)

Each character has an index (starting from **0**).

```
text = "Python"
print(text[0])   # P
print(text[-1])  # n (last character)
```

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3. String Slicing

Used to extract part of a string.

```
text = "Python"
print(text[0:4])   # Pyth
print(text[2:])    # thon
print(text[:3])    # Pyt
```

---

4. Common String Methods

```
msg = " hello Python "

print(msg.upper())     # HELLO PYTHON
print(msg.lower())     # hello python
print(msg.strip())     # hello Python
print(msg.replace("Python", "World"))  # hello World
print(msg.split())     # ['hello', 'Python']
```

---

5. String Concatenation

Joining strings together.

```
first = "Hello"
second = "World"
result = first + " " + second
print(result)
```

---

6. String Formatting

a) Using f-strings (Recommended)

```
name = "Athar"
```

```
age = 25
print(f"My name is {name} and I am {age} years old")
```

b) Using format()

```
print("My name is {} and I am {} years old".format(name, age))
```

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7. String Length

```
text = "Python"
print(len(text))  # 6
```

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8. Checking Substrings

```
text = "Python Programming"
print("Python" in text)     # True
print("Java" not in text)   # True
```

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9. Strings are Immutable

Strings **cannot be changed** after creation.

```
text = "Python"
# text[0] = "J"   #Error
text = "Jython"  # New string
```

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10. Escape Characters

```
print("Hello\nWorld")   # New line
print("He said \"Hi\"") # Quotes inside string
```