string in python

```python
# different formatting in python
name, age = 'abbas', 23
print("I'm %s, and I am %d years old,"  %
(name ,age))
print("I'm {}, and I am {} years
old,".format(name, age))
print(f"I'm {name}, and I am {age} years
old,")
# output: I'm abbas, and I am 23 years
old

I'm abbas, and I am 23 years old,
I'm abbas, and I am 23 years old,
I'm abbas, and I am 23 years old,
```

formatting numbers

```python
# number signs
print(f"{10:+} and {-10:+}")    # +10 and
-10
print(f"{10:-} and {-10:-}")    # 10 and
-10  ;default

+10 and -10
10 and -10

# seperators
print(f"{2024:,}")    # 2,024
print(f"{1403:_}")    # 1_403
```

```python
2,024
1_403

# percentages, and floating number
print(f"{1/6:.2%} or {.25:.1%}")  # 16.67% or 25.0%
print(f"{64:.1f}, {129.5:.2f}")  # 64.5, 129.50
```

```
16.67% or 25.0%
64.0, 129.50
```

```python
# padding for numbers
floating = -48.25
print(f"{floating:0=8}")   # -00048.25
print(f"{floating:0<8}")   # -48.25000
```

```
-0048.25
-48.2500
```

```python
# binary, octal, decimal, and hexadecimal numbers
number = 31
print(f"{number:b}")                    # 11111
print(f"{number:o}")                    # 37
print(f"{number:d}")                    # 31 ;default
print(f"{number:x} or {number:X}")     # 1f or 1F
print(f"{number:#o}")                   # 0o37
print(f"{number:#x} or {number:#X}")  # 0x1f or 0X1F
```

```
11111
37
31
1f or 1F
0o37
0x1f or 0X1F
```

formatted string

```python
# padding for strings
text = 'Python is fum'
print(f"{text:>18}")   # `     Python is fum`
print(f"{text:<18}")   # `Python is fum     `
print(f"{text:^18}")   # `  Python is fum   `
print(f"{text:?<15}")  # `Python is fum??`
print(f"{text:~^15}")  # `~Python is fum~`

     Python is fum
Python is fum
  Python is fum
Python is fum??
~Python is fum~
```

string conversion in formatting

```python
# conversions
print(f"{'زبان Python'!s}")  # زبان Python
print(f"{'زبان Python'!r}")  # 'زبان Python'
```

```python
print(f"{'زبان Python'!a}")  # '\u0632\
u0628\u0627\u0646 Python'
# `str` is for user, `repr` is for
developer, and `ascii` is based on
encoding.
```

```
زبان Python
'زبان Python'
'\u0632\u0628\u0627\u0646 Python'
```