7. Conditions in Python

Comparison operators

- Comparison operators compare some value or operand and based on a condition, produce a Boolean.
- Python has six comparison operators as below:

```
* Less than(<)
* Less than or equal to(<=)
* Greater than(>)
* Greater than or equal to (>=)
* Equal to(==)
* Not Equal to (!=)
```

In [1]:

```
# Take a variable

ratio=1.618

print(ratio<2)
print(ratio>2)
```

```
True
False
```

In [2]:

```
print(ratio<=2)
print(ratio<=1)
print(ratio<=1.618)
```

```
True
False
True
```

In [3]:

```
print(ratio>2)
print(ratio>1)
print(ratio>=2)
print(ratio>=1.618)
```

```
False
True
False
True
```

In [4]:

```
print(ratio==2)
print(ratio==1.618)
print(ratio!=2)  # is not equal to
print(ratio!=1.618)
```

```
False
True
True
False
```

Branching (if, elif, else)

- Decision making is require when we want ot execute a code only if a certain condition is certified.
- The if/elif/else statement is used in python for decidion making.
- An else statement can be combined with an if statement.
- An else statement contains the block of code that executes if the conditional expression in the if statement resolves to 0 or a False value.
- The else statement is an optional statement and there could be at most only one else statement following if.
- The elif statement allows you to check multiple expressions for True and execute a block of code as soon as one of the conditions evaluates to True.
- Similar to the else, the elif statement is optional.

In [5]:

```
pi=3.14
ratio=1.618


# This statement can be True or False

if pi>ratio:
    print(f'The number pi {pi} is greater than ratio {ratio}.')

else:
    print('False value')
```

```
The number pi 3.14 is greater than ratio 1.618.
```

In [6]:

```
if pi>ratio:
    print('The number pi 3 is greater than ratio 1.')

else:
    print('False value')
```

```
The number pi 3 is greater than ratio 1.
```

In [14]:

```
age=int(input('Enter your age between 1 to 10:  '))

if age>6:
    print('You can go to primary school.')

elif age==5:
    print('You should go to Kindergarten.')

else:
    print('You are a baby')
```

```
Enter your age between 1 to 10:  20000
You can go to primary school.
```

In [19]:

```
imdb_point=float(input('Enter the movie rating: '))

if imdb_point >=8.5:
    print('The movie could win oscar award')

else:
    print('The movie could not win oscar.')
```

```
Enter the movie rating: 8.5
The movie could win oscar award
```

In [21]:

```
age=int(input('Enter your age: '))

if age>=18:
    print('You are elegible for voting')

else:
    print('You are not elegibel for voting.')
```

```
Enter your age: 15
You are not elegibel for voting.
```

In [ ]:

```

```