Comparison Operators

- **Integer comparison**
  - `35 <= 45` // True
  - `35 > 45` // False
  - `45 == 45` // True

- **String comparison**
  - `'hello' != 'hello'` // False

- **Numerical and String comparison**
  - `45 == '45'` // False

Comparison Operators Table

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<th>Meaning</th>
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<td><code>==</code></td>
<td>Equal to</td>
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Boolean Operators

- There are three Boolean operators: and, or, and not.
- Two True conditions with 'and' is True: `(7 < 9) and (5 > 4)` // True
- One or more False conditions with 'and' is False: `(8 < 9) and (9 < 5)` // False
- True and False condition with 'or' is True: `(1 == 2) or (2 == 2)` // True
- Using multiple boolean conditions with comparison operators: `(4 + 4 == 8) and not (5 - 2 == 5) and (4 * 4 == 14 + 2)` // True

String comparison

- `'hello' != 'hello'` // False

Numerical 45 is not equal to String '45'

The for loop iterates over a dictionary, list, tuple, set, or string. The for loop will print individual items (colors) in the list.

```python
colors = ['Red', 'Blue', 'Green']
for i in colors:
    print(i)
```

Numbers 45 and Integer 45 are same

- `45 == 45.0` // True

Ternary Conditional Operator

- It allows us to convert the if statement to one-line code.
  ```python
  profit = 100
  if profit > 50:
      print('Bonus')
  else:
      print('No Bonus')
  ```

```
> Bonus
```

For loop

- The for loop iterates over a dictionary, list, tuple, set, or string. The for loop will print individual items (colors) in the list.

```
for i in colors:
    print(i)
```

```
Red
Blue
Green
```

While Loop

- The while statement will keep running as long as the statement is True.
  ```python
  loop = 0
  while True:
      print('Welcome to KDnuggets')
      loop += 1
      if loop == 10:
          break
  ```

```
Welcome to KDnuggets
Welcome to KDnuggets
Welcome to KDnuggets
Welcome to KDnuggets
Welcome to KDnuggets
Welcome to KDnuggets
Welcome to KDnuggets
Welcome to KDnuggets
Welcome to KDnuggets
Welcome to KDnuggets
```

If statement with else. The else statement will execute when if and elif expressions are False.

```
name = 'Abid'
if name != 'Abid':
    print('Hi, Matthew')
else:
    print('Hi, Abid')
```