Difference Between == and is Operator:-

== (Equality Operator): Checks if two values are equal.

is (Identity Operator): Checks if two objects refer to the same memory location.

Identity Operator (is and is not):-

is → Returns True if two variables point to the same object in memory.

is not → Returns True if two variables point to different objects.

**while Loop vs for Loop:-**

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| --- | --- | --- |
| **Feature** | **while Loop** | **for Loop** |
| Used When | Condition-based looping | Iterating over a sequence (list, range, etc.) |
| Condition | Runs **until** a condition becomes False | Runs **for** a fixed number of iterations |
| Best Use Case | When the number of iterations is **unknown** | When the number of iterations is **known** |

While loop (syntax):-

i = 1

while (i <= 5):

print(i)

i += 1