

Practical 3

1. Membership Operators (`in` and `not in`):

Example 1: Using 'in'

```
fruits = ['apple', 'banana', 'orange', 'grape']
fruit_to_check = 'banana'
if fruit_to_check in fruits:
    print(f"{fruit_to_check} is present in the list.")
else:
    print(f"{fruit_to_check} is not present in the list.")
```

Output:

```
banana is present in the list.
```

Example 2: Using 'not in'

```
number_list = [1, 2, 3, 4, 5]
number_to_check = 6
if number_to_check not in number_list:
    print(f"{number_to_check} is not present in the list.")
else:
    print(f"{number_to_check} is present in the list.")
```

Output:

```
6 is not present in the list.
```

2. Identity Operators (`is` and `is not`)

Example 1: Using 'is'

```
x = [1, 2, 3]
y = [1, 2, 3]
if x is y:
    print("x and y reference the same object.")
else:
    print("x and y do not reference the same object.")
```

Output:

```
x and y do not reference the same object.
```

Example 2: Using 'is not'

```
a = 10
```

```
b = 10
if a is not b:
    print("a and b do not reference the same object.")
else:
    print("a and b reference the same object.")
```

Output:

```
a and b reference the same object.
```