# 1. Write a Python program to check whether a list contains a sublist.

## Input

## a = [2,4,3,5,7]

## b = [4,3]

## c = [3,7]

## print(is_Sublist(a, b))

## print(is_Sublist(a, c))

## Output

In [1]:
```
def is_Sublist(a, b):
    if len(b) == 0:
        return True
    if len(a) == 0:
        return False
    if b == a[:len(b)]:
        return True
    return is_Sublist(a[1:], b)
```

In [2]:
```
a = [2, 4, 3, 5, 7]
b = [4, 3]
c = [3, 7]
```

In [3]:
```
print(is_Sublist(a, b))
print(is_Sublist(a, c))
```

```
True
False
```

# 2. Write a Python program to find common items from two lists.

# input

# color1 = "Red", "Green", "Orange", "White"

# color2 = "Black", "Green", "White", "Pink"

# output

# {'Green', 'White'}

In [4]:
```
def find_common_items(list1, list2):
    set1 = set(list1)
    set2 = set(list2)
    common_items = set1.intersection(set2)
    return common_items
```

In [5]:
```
color1 = ["Red", "Green", "Orange", "White"]
color2 = ["Black", "Green", "White", "Pink"]
```

In [6]:
```
common_colors = find_common_items(color1, color2)
print(common_colors)
```

```
{'White', 'Green'}
```

# 3. Write a Python program to get the difference between the two lists

# Input

# list1 = [1, 2, 3, 4]

# list2 = [1, 2]

# Output

# [3,4]

In [7]:
```
def get_list_difference(list1, list2):
    difference = list(set(list1) - set(list2))
    return difference
```

In [8]:
```
list1 = [1, 2, 3, 4]
list2 = [1, 2]
```

In [9]:
```
difference = get_list_difference(list1, list2)
print(difference)
```

```
[3, 4]
```

# 4. Write a Python program to generate all permutations of a list in Python

# Input [1,2,3]

# Output [(1, 2, 3), (1, 3, 2), (2, 1, 3), (2, 3, 1), (3, 1, 2), (3, 2, 1)]

In [10]:
```
from itertools import permutations
```

In [11]:
```
def generate_permutations(lst):
    perm_list = list(permutations(lst))
    return perm_list
```

In [12]:
```
input_list = [1, 2, 3]
permutations_list = generate_permutations(input_list)
```

In [13]:
```
print(permutations_list)
```

```
[(1, 2, 3), (1, 3, 2), (2, 1, 3), (2, 3, 1), (3, 1, 2), (3, 2, 1)]
```

# 5. Write a Python program to remove duplicates from a list.

# Input a = [10,20,30,20,10,50,60,40,80,50,40]

# Output {40, 10, 80, 50, 20, 60, 30}

In [14]:
```
def remove_duplicates(lst):
    unique_list = list(set(lst))
    return unique_list
```

In [15]:
```
a = [10, 20, 30, 20, 10, 50, 60, 40, 80, 50, 40]
unique_elements = remove_duplicates(a)
```

In [16]:
```
print(unique_elements)
```

```
[40, 10, 80, 50, 20, 60, 30]
```

In [ ]:
```

```