

Code:

```
print("")
print("**Set Operations**")
print("-----")
print("")
setA = {1, 3, 5, 7}
setB = {2, 4, 6, 7}
print("setA: {}".format(setA))
print("setB: {}".format(setB))
print("")
print("**union**")
print(setA | setB)
print("")
print("**Intersection**")
print(setA & setB)
print("")
print("**Difference**")
print("A-B: +", end="")
print(setA - setB)
print("")
print("**Symmetric Difference**")
print(setA ^ setB)
print("")
print("**A subset of B**")
print(setA.issubset(setB))
print("")
print("**A superset of B**")
print(setA.issuperset(setB))
print("")
print("**Update**")
setA.update(setB)
print(setA)
print("")
print("**length**")
print(len(setA))
```

Output:

G:\OST\Exp4> python3 .\exp4.py

Set Operations

setA: {1, 3, 5, 7}

setB: {2, 4, 6, 7}

union

{1, 2, 3, 4, 5, 6, 7}

Intersection

{7}

Difference

A-B: +{1, 3, 5}

Symmetric Difference

{1, 2, 3, 4, 5, 6}

A subset of B

False

A superset of B

False

Update

{1, 2, 3, 4, 5, 6, 7}

length

7

Code:

```
import copy
```

```
str1 = input("String 1: ")
```

```
str2 = input("String 2: ")
```

```
set1 = set(list(str1))
```

```
set1.discard(' ')
```

```
set2 = set(list(str2))
```

```
set2.discard(' ')
```

```

print("Set1: {}".format(set1))
print("Set2: {}".format(set2))
print("Common letters: {}".format(set1 & set2))
print("letters in str1 not in str2: {}".format(set1 - set2))
print("set of letters in both strings: {}".format(set1 | set2))
print("letters in str1 and str2 but not common in both: {}".format(set1 ^ set2))
copyshallow = copy.copy(set1)
copyasn = set1
print("Set1: {}".format(set1))
print("SetCopyShallow: {}".format(copyshallow))
print("SetAssgn: {}".format(copyasn))
print("adding Python to set1")
set1.add("Python")
print("Set1: {}".format(set1))
print("SetCopyShallow: {}".format(copyshallow))
print("SetAssgn: {}".format(copyasn))
print("")
print("ID of Set1: {}".format(id(set1)))
print("ID of SetCopyShallow: {}".format(id(copyshallow)))
print("ID of SetAssgn: {}".format(id(copyasn)))

```

Output:

```

String 1: hello world
String 2: hey! how u doing?
Set1: {'o', 'l', 'r', 'e', 'd', 'h', 'w'}
Set2: {'o', 'g', 'u', 'i', '?', '!', 'e', 'n', 'd', 'y', 'h', 'w'}
Common letters: {'o', 'e', 'd', 'h', 'w'}
letters in str1 not in str2: {'l', 'r'}
set of letters in both strings: {'o', 'u', 'i', '?', 'e', '!', 'n', 'h', 'l', 'g', 'r', 'd', 'y', 'w'}
letters in str1 and str2 but not common in both: {'l', 'g', 'r', 'u', 'i', '?', '!', 'n', 'y'}
Set1: {'o', 'l', 'r', 'e', 'd', 'h', 'w'}
SetCopyShallow: {'o', 'l', 'r', 'd', 'h', 'e', 'w'}
SetAssgn: {'o', 'l', 'r', 'e', 'd', 'h', 'w'}
adding Python to set1
Set1: {'o', 'l', 'r', 'Python', 'e', 'd', 'h', 'w'}
SetCopyShallow: {'o', 'l', 'r', 'd', 'h', 'e', 'w'}
SetAssgn: {'o', 'l', 'r', 'Python', 'e', 'd', 'h', 'w'}
ID of Set1: 2650732302856
ID of SetCopyShallow: 2650732304424
ID of SetAssgn: 2650732302856

```