Practical No-20

Title- Sets in Python

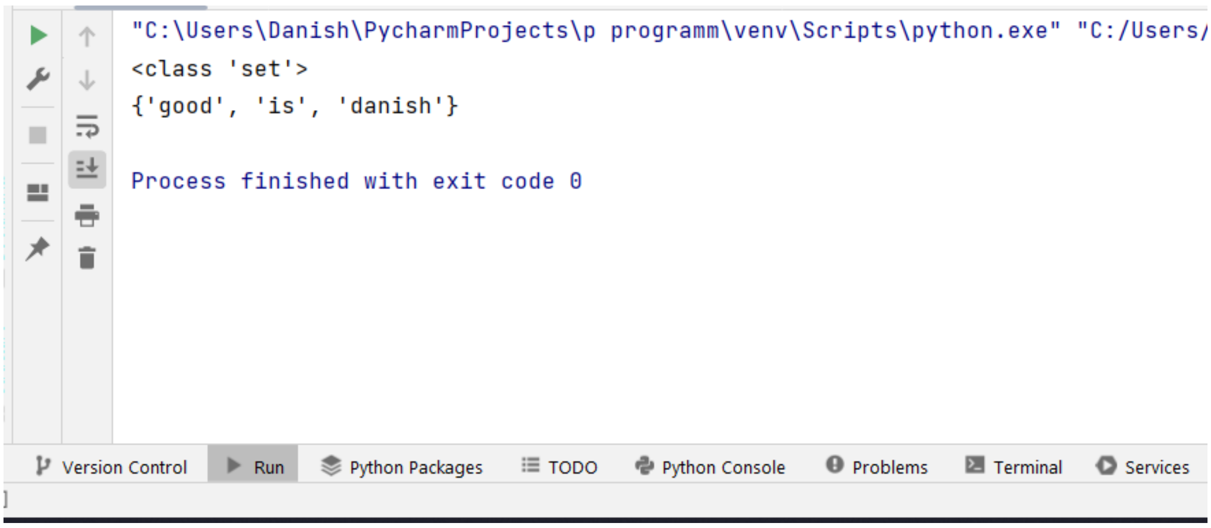
What is sets ?

A Set is an unordered collection data type that is iterable, mutable

Creating sets in python

```
var = {"danish", "is", "good"}
print(type(var))
print(var)
```

OUTPUT



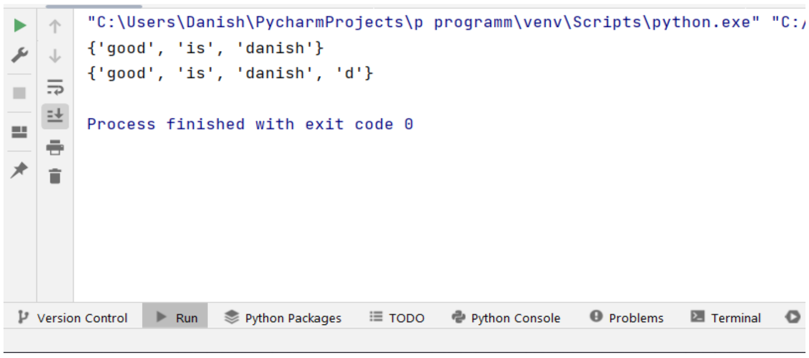
```
"C:\Users\Danish\PycharmProjects\p programm\venv\Scripts\python.exe" "C:/Users/
<class 'set'>
{'good', 'is', 'danish'}

Process finished with exit code 0
```

Adding element to python set

CODE

```
myset = {"danish", "is", "good"}
print(myset)
myset.add("d")
print(myset)
```

OUTPUT



```
"C:\Users\Danish\PycharmProjects\p programm\venv\Scripts\python.exe" "C:/
{'good', 'is', 'danish'}
{'good', 'is', 'danish', 'd'}

Process finished with exit code 0
```

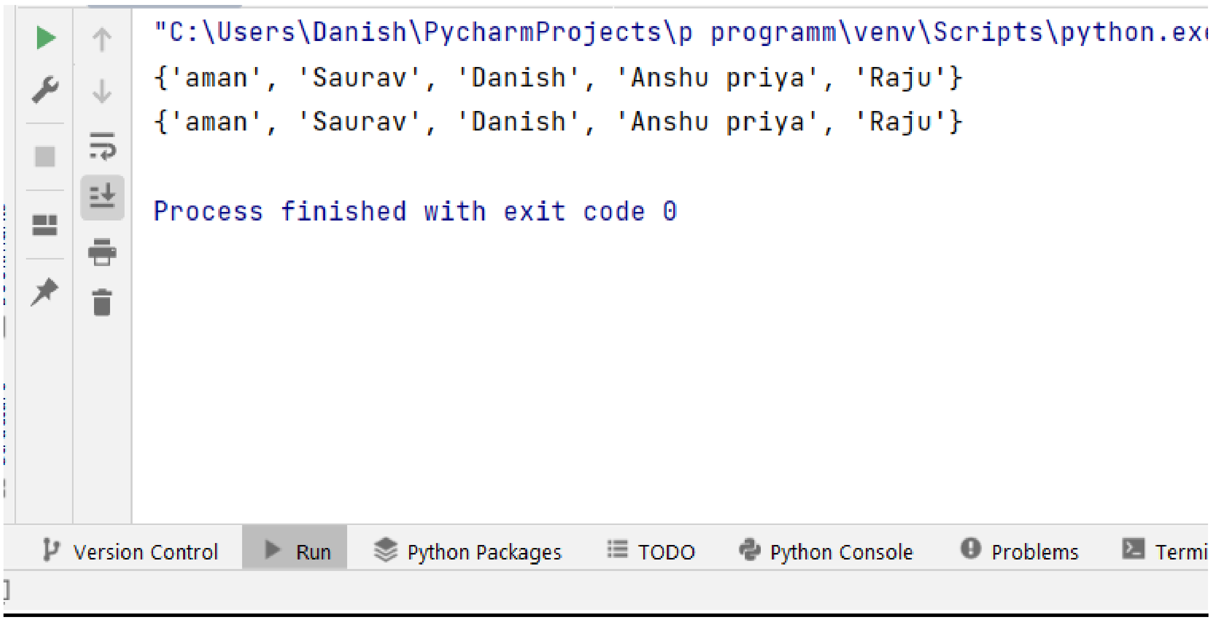
Different operations on Python sets

1)Union - Two sets can be merged using union() function or | operator.

CODE

```
people = {"Danish", "aman", "Saurav"}
vampires = {"simran", "sachin"}
dracula = {"Anshu priya", "Raju"}
population = people.union(vampires)
population = people | dracula

print(population)

print(population)
```

OUTPUT



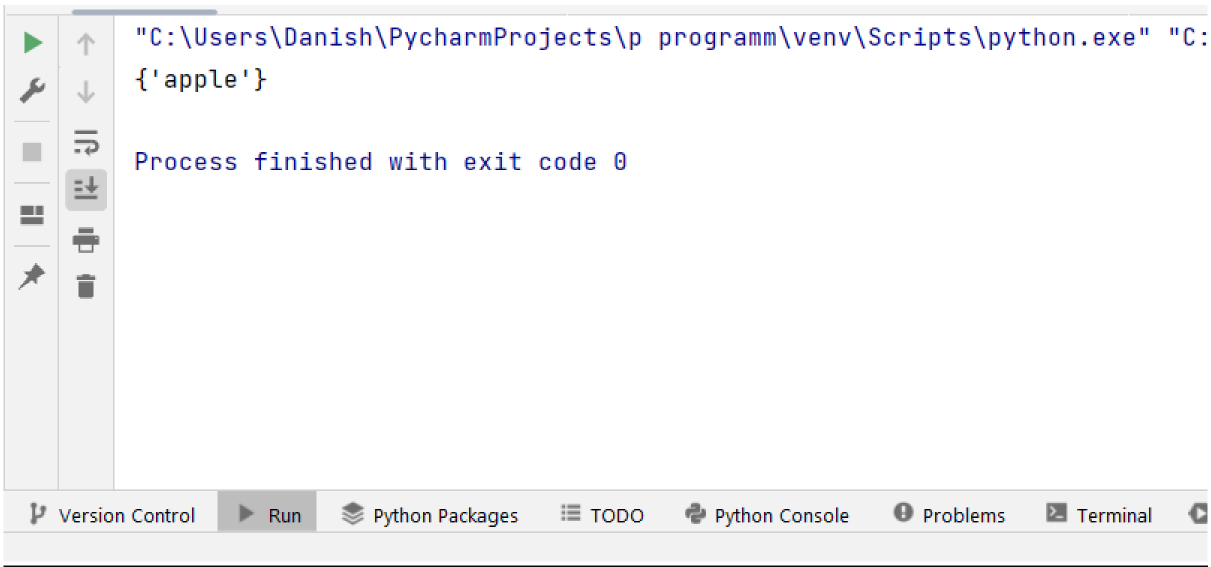
```
"C:\Users\Danish\PycharmProjects\p programm\venv\Scripts\python.ex
{'aman', 'Saurav', 'Danish', 'Anshu priya', 'Raju'}
{'aman', 'Saurav', 'Danish', 'Anshu priya', 'Raju'}

Process finished with exit code 0
```

2) Intersection-This can be done through intersection() or & operator. Common Elements are selected.

CODE

```
x = {"apple", "banana", "cherry"}
y = {"google", "microsoft", "apple"}

z = x.intersection(y)
print(z)
```

OUTPUT



```
"C:\Users\Danish\PycharmProjects\p programm\venv\Scripts\python.exe" "C:
{'apple'}

Process finished with exit code 0
```

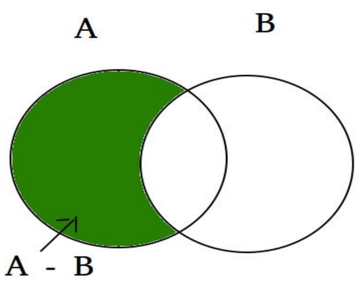
3) Difference- The difference between the two sets in Python is equal to the difference between the number of elements in two sets.

Example- set A = {10, 20, 30, 40, 80} set B = {100, 30, 80, 40, 60}

set A - set B = {10, 20} set B - set A = {100, 60}

Explanation: A - B is equal to the elements present in A but not in B
B - A is equal to the elements present in B but not in A

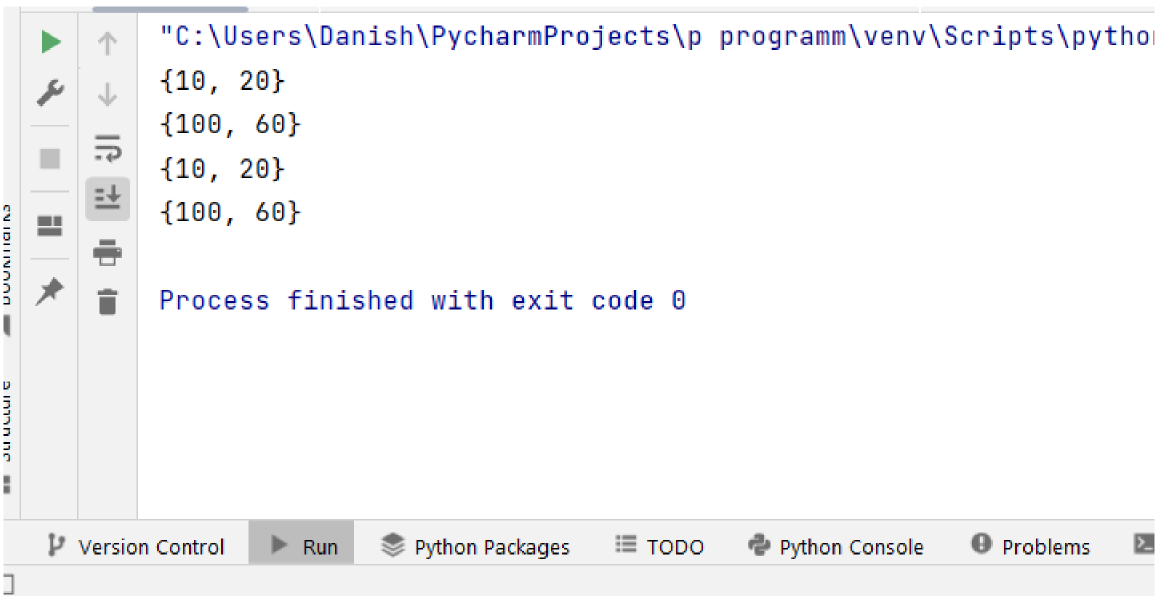
Ven Diagram



CODE

```
A = {10, 20, 30, 40, 80}
B = {100, 30, 80, 40, 60}
print (A.difference(B))
print (B.difference(A))
print (A - B)
print (B - A)
```

OUTPUT



```
"C:\Users\Danish\PycharmProjects\p programm\venv\Scripts\pytho
{10, 20}
{100, 60}
{10, 20}
{100, 60}

Process finished with exit code 0
```

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