A.Y. 2022-2023

Subject: Python **SAP ID: 60004220253 – Devansh Mehta**

Experiment No. 01

Aim: To study and implement different data types and operators in python.

Code:

```
x = 'hello'
print(type(x))
p = 786
print(type(p))
f = 12.3
print(type(f))
l1 = [1, 'were', 76]
print(type(l1))
a = range(7)
for i in a:
    print(i,end=" ")
print(type(a))
tp = ('qwert',)
print(type(tp))
Dict = dict()
Dict = {'Name': 'devansh', 'SAP':60004220253}
print(type(Dict))
set1 = set("the World is A beautiful pLace.")
print(set1)
print(type(set1))
print(type(True))
print(type(False))
```

```
<class 'str'>
<class 'int'>
<class 'float'>
<class 'list'>
0 1 2 3 4 5 6 <class 'range'>
<class 'tuple'>
<class 'dict'>
{'o', 'L', 'c', 'd', 'p', 't', 'l', 'f', 'A', 'W', 'b', 'i', 'r', 'u', 'a', '.', 'h', 'e', ' ', 's'}
<class 'set'>
<class 'bool'>
<class 'bool'>
```

Assignment Operators:

```
x = 10
print("Initial value: ",x)
x += 7
```

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```
print("New value: ",x)
x -= 7
print("New value: ",x)
x *= 7
print("New value: ",x)
x /= 7
print("New value: ",x)
x %= 7
print("New value: ",x)
x //= 7
print("New value: ",x)
x **= 7
print("New value: ",x)
x = 2
x **= 7
print("New value: ",x)
```

```
PS C:\Users\devan\OneDrive\Desktop\Py
Initial value:  10
New value:  17
New value:  10
New value:  70
New value:  10.0
New value:  3.0
New value:  0.0
New value:  0.0
New value:  128
```

Arithmetic Operators:

```
x = 100
y = 5
opt = x+y
print(opt)
opt = x-y
print(opt)
opt = x*y
print(opt)
opt = x/y
print(opt)
opt = x**y
print(opt)
opt = x//y
print(opt)
opt = x%y
print(opt)
```

```
PS C:\Users\devan\OneDrive\
105
95
500
20.0
10000000000
20
0
```

Comparison, Logical, Identity, Membership and Bitwise Operators:

```
t = 12
y = 10
x = 100
#Comparison
print(t==y)
print(t!=x)
print(t>=x)
print(t<=x)
```

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#Logical
```
print(x)
print(x > 50 and x < 112)
print(x > 3 or x < 4)
print(not(x > 50 and x < 112))
```

#Identity
```
x = ["apple", "banana"]
y = ["apple", "banana"]
z = x

print(x is z)
print(x is y)
print(x == y)
print(x is not z)
print(x is not y)
print(x != y)
```

#Membership
```
print("banana" in x)
print("orange" not in x)
```

#Bitwise
```
print(6 & 3)
print(6 | 3)
print(6 ^ 3)
print(~3)
print(3 << 2)
print(8 >> 2)
```

```
False
True
False
True
100
True
True
False
True
False
True
False
True
False
True
True
2
7
5
-4
12
2
PS C:\Users\devan\OneDrive\Desktop\Python Codes>
```