

```
# List Comprehension
```

```
# Without List Comprehension
```

```
lst1
=[0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19
]
new_lst1 =[]
for i in lst1:
    new_lst1.append(i+1)
print(new_lst1)
```

```
# With List Comprehension
```

```
lst2
=[0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19
]
new_lst2 =[i+1 for i in lst2]
print(new_lst2)
print()
```

```
#
```

```
# Same as above in different way
```

```
# Without List Comprehension
```

```
lst1 =[]
for i in range(20):
    lst1.append(i+1)
print(lst1)
```

```
# With List Comprehension
```

```
lst2 =[i+1 for i in range(20)]
print(lst2)
```

```
*****
```

```
# List Comprehension
```

```
# Without List Comprehension (Conditional)
```

```
lst1 =[]
for i in range(20):
```

```
        if(i%2==0):
            lst1.append(i)
print(lst1)
```

```
# With List Comprehension (Conditional)
lst2 =[i for i in range(20) if i%2==0]
print(lst2)
```

```
# List Comprehension
```

```
# Without List Comprehension (Conditional)
lst1 =[]
for i in range(20):
    if(i%2==0):
        if(i%3==0):
            lst1.append(i)
print(lst1)
```

```
# With List Comprehension (Conditional)
lst2 =[i for i in range(20) if i%2==0 if i%3==0]
print(lst2)
```

```
# List Comprehension
```

```
# Without List Comprehension (if else)
lst1 =[]
for i in range(10):
    if(i%2==0):
        lst1.append(i)
    else:
        lst1.append("Invalid")
print(lst1)
```

```

# With List Comprehension (if else)
lst2 =[i if i%2==0 else "Invalid" for i in
range(10)]
print(lst2)

```

```

# Nested List Comprehension

```

```

lst =[[i*j for j in range(4,7)] for i in
range(6,8)]
print(lst)

```

```

# Below Code is only for explanation you can ommit

```

```

a = [[24, 30, 36], [28, 35, 42]]
for i in range(6,8):
    for j in range(4,7):
        pass

```

Set Comprehension

```

# Set Comprehension

```

```

# Without Set Comprehension

```

```

set1
={0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19
}
new_set1 =set()
for i in set1:
    new_set1.add(i+1)
print(new_set1)
print(type(new_set1))

```

```

# With Set Comprehension

```

```

set2
={0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19

```

```
}
new_set2 = {i+1 for i in set2}
print(new_set2)
print(type(new_set2))
print()
```

Same as above in different way

Without Set Comprehension

```
set1 = set()
for i in range(20):
    set1.add(i+1)
print(set1)
print(type(set1))
```

With Set Comprehension

```
set2 = {i+1 for i in range(20)}
print(set2)
print(type(set2))
```

Set Comprehension

Without Set Comprehension (Conditional)

```
set1 = set()
for i in range(20):
    if (i%2==0):
        set1.add(i)
print(set1)
print(type(set1))
```

With Set Comprehension (Conditional)

```
set2 = {i for i in range(20) if i%2==0}
print(set2)
print(type(set2))
```

```
# Set Comprehension
```

```
# Without Set Comprehension (Conditional)
```

```
set1 =set()  
for i in range(20):  
    if(i%2==0):  
        if(i%3==0):  
            set1.add(i)  
print(set1)  
print(type(set1))
```

```
# With Set Comprehension (Conditional)
```

```
set2 ={i for i in range(20) if i%2==0 if i%3==0}  
print(set2)  
print(type(set2))
```

```
*****
```

```
# Set Comprehension
```

```
# Without Set Comprehension (if else)
```

```
set1 =set()  
for i in range(10):  
    if(i%2==0):  
        set1.add(i)  
    else:  
        set1.add(i*1000)  
print(set1)  
print(type(set1))
```

```
# With Set Comprehension (if else)
```

```
set2 ={i if i%2==0 else i*1000 for i in range(10)}  
print(set2)  
print(type(set2))
```

```
*****
```

```
# Nested Set Comprehension
st = {(i, j) for j in range(4,7) for i in
range(6,8)}
print(st)
print(type(st))
```

```
# Dictionary Comprehension
lst = [(101, "Rahul"), (102, "Raj")]
dict1 = {k:v for k,v in lst}
print(dict1)
```

```
# Dictionary Comprehension
```

```
# Without Dict Comprehension
dict1 = {}
for n in range(10):
    dict1[n]=n*2
print(dict1)
```

```
# With Dict Comprehension
dict2 = {n:n*2 for n in range(10)}
print(dict2)
```

```
# Dictionary Comprehension
```

```
# Without Dict Comprehension (Conditional)
dict1 = {}
for n in range(10):
    if n%2==0 :
        dict1[n]=n*2
print(dict1)
```

```
# With Dictionary Comprehension (Conditional)
```

```
dict2 = {n:n*2 for n in range(10) if n%2==0}
print(dict2)
```

```
*****
```

```
# Dictionary Comprehension
```

```
# Without Dict Comprehension (Nested Conditional)
```

```
dict1 = {}
for n in range(10):
    if n%2==0 :
        if n%3==0:
            dict1[n]=n*2
print(dict1)
```

```
# With Dictionary Comprehension (Nested Conditional)
```

```
dict2 = {n:n*2 for n in range(10) if n%2==0 if
n%3==0}
print(dict2)
```

```
*****
```

```
# Dictionary Comprehension
```

```
# Without Dict Comprehension (If Else)
```

```
dict1 = {}
for n in range(10):
    if n%2==0 :
        dict1[n]=n
    else:
        dict1[n]="Invalid"
print(dict1)
```

```
# With Dictionary Comprehension (If Else)
```

```
dict2 = {n:(n if n%2==0 else "Invalid") for n in
```

```
range(10) }  
print(dict2)
```