Comprehension In Python

```python
# 1. Comprehension in python


# A). list comprehension[] : making an new list from existing list, programmitically
list1 = [1,2,3,4,5,6]
list1 = [item * 2 for item in list1]
list2 = [item*3 for item in list1]
print(list2)
print(list1)


list3 = [i**2 for i in range(4,7) if i%2 == 0]
print(list3)


list4 = ['apple','orange','luci','cake','poo']
list5 = [fruit for fruit in list4 if fruit[0] == 'o']
list6 = [fruit for fruit in list4 if 'o' in fruit]
print(list5)
print(list6)
# B). Dictionary comprehension{} : making new dictionary from existing dictionary, programitically


dict1 ={'name':'hitendra','class':100,'location':'goa','street':200}
dict2 = {i for i in dict1 if len(i) > 4}
print(dict2)


dict3 = {k:v for k,v in dict1.items() if len(k) > 4}
print(dict3)


# C). conversion of list to an dictionary using comprehension
list1 = [1,2,3,4,7]
dict1 = {i**2 for i in list1 if i % 2 == 0}
print(dict1)
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[6, 12, 18, 24, 30, 36]
[2, 4, 6, 8, 10, 12]
[16, 36]
['orange']
['orange', 'poo']
{'street', 'location', 'class'}
{'class': 100, 'location': 'goa', 'street': 200}
{16, 4}
```