```
for number in range(1,11):
    print(number*number)
```

```
1
4
9
16
25
36
49
64
81
100
```

```
squares=[]
for value in range(1,11):
    square=value**2
    squares.append(square)
print(squares)
```

```
[1, 4, 9, 16, 25, 36, 49, 64, 81, 100]
```

```
#multiplication of 17
multiplication=[]
for value in range(1,11):
    mul=value*17
    multiplication.append(mul)
print(multiplication)
```

```
[17, 34, 51, 68, 85, 102, 119, 136, 153, 170]
```

```
# slicing list
bikes=['honda','yamaha','suzuki','bsjaj','ducati','duke','bmw','kawasa
ki']
print(bikes)
print(bikes[1:4])
```

```
['honda', 'yamaha', 'suzuki', 'bsjaj', 'ducati', 'duke', 'bmw',
'kawasaki']
['yamaha', 'suzuki', 'bsjaj']
```

```
print(bikes[:4])
```

```
['honda', 'yamaha', 'suzuki', 'bsjaj']
```

```
#loop through a subset of list
for bike in bikes[:4]:
    print(bike)
```

```
honda
yamaha
suzuki
bsjaj
```

```
# copying of list
new_list=old_list[:]
new_list=old_list #wrong way

new_bikes=bikes[:] # copied all the bike in new_bike
new_bikes.append('tvs')
print(new_bikes)
```

```
['honda', 'yamaha', 'suzuki', 'bsjaj', 'ducati', 'duke', 'bmw',
'kawasaki', 'tvs']
```

```
countries=['nepal','srilanka','russia','usa','finland','netherland','e
ngland']
friend_countries=countries[:]
countries.append('newzealand')
friend_countries.append('canada')
print("original_countries: \n")
for country in countries:
    print(country)
print("\n")
print("friend_countries: \n")
for country in friend_countries:
    print(country)
```

```
original_countries:

nepal
srilanka
russia
usa
finland
netherland
england
newzealand


friend_countries:

nepal
srilanka
russia
usa
finland
netherland
england
canada
```

```
# Tuples
bikes=('honda','tvs','bajaj','yamaha')
print(bikes)
```

```
for bike in bikes:
    print(bike)
```

```
('honda', 'tvs', 'bajaj', 'yamaha')
honda
tvs
bajaj
yamaha
```

```
#if-else statement # to check certain element is present
if 'kawasaki' in bikes:
    print("Let's go for a long drive on kawasaki")
elif 'bmw' in bikes:

else:
    print("let's buy a new kawasaki")
```

```
let's buy a new kawasaki
```

```
if 'kawasaki' in bikes:
    pass # move to the next statement
elif 'bmw' in bikes:

else:
    print("let's buy a new kawasaki")
```

```
#check if a value exists in the list
squares=[]
if squares:
    print("list is populated")
else:
    print("empty list")
```

```
empty list
```

```
# TASK 7
username=['ankit','nikhil','harshit','prashant','ayush']
for user in username:
    print(f"welcome {user}")
```

```
welcome ankit
welcome nikhil
welcome harshit
welcome prashant
welcome ayush
```

```
username=['ankit','nikhil','harshit','prashant','ayush']
if(user):
    for user in username:
        if(user=="ankit"):
            print("hello ankit ,would you like to see a status
```

```
report")
        else:
            print(f"hello {user} thankyou for logging in again")
else:
    print("we need to find users")
```

```
hello ankit ,would you like to see a status report
hello nikhil thankyou for logging in again
hello harshit thankyou for logging in again
hello prashant thankyou for logging in again
hello ayush thankyou for logging in again
```

```
bikes=['honda','yamaha','suzuki','bsjaj','ducati','duke','bmw','kawasa
ki']
if 'bmw' in bikes:
    print("bmw is there in the list")
else:
    print("bmw is not there in the list")
```

```
bmw is there in the list
```

```
if 'tvs' not in bikes:
    print("please add tvs in bikes")
```

```
please add tvs in bikes
```

working with multiple lists

check if item in list is present in the another list

```
bikes_in_showroom1=['yamaha','tvs','bajaj']
bikes_in_showroom2=['ducati','duke','yamaha','bmw']

for bike in bikes_in_showroom1:
    if bike in bikes_in_showroom2:
        print(f'bike {bike.title()} is present in both the showroom')
```

```
bike Yamaha is present in both the showroom
```

```
# TASK 8
current_users=['ankit','raghu','nikhil','shankar','aryaman','ashu','ri
shit']
new_users=['neeraj','shyaa','ankit','aryaman','mohan','Ashu']
for user in new_users:
```

```
    if user in current_users:
        print(f"please enter a new user name {user}")
    else:
        print(f"{user} username is availaible")
```

```
neeraj username is availaible
shyaa username is availaible
please enter a new user name ankit
please enter a new user name aryaman
mohan username is availaible
Ashu username is availaible
```

```
current_users=['ankit','raghu','nikhil','shankar','aryaman','ashu','ri
shit','Rita']
new_users=['neeraj','shyaa','ankit','aryaman','mohan','Ashu','rITa']
current_user_lower=[]
for user in current_users:
    user_name=user.lower()
    current_user_lower.append(username)
print(current_user_lower)
for user in new_users:
    if user.lower() in current_user_lower:
        print(f"please enter a new user name {user}")
    else:
        print(f"{user} username is availaible")
```

```
[['ankit', 'nikhil', 'harshit', 'prashant', 'ayush'], ['ankit',
'nikhil', 'harshit', 'prashant', 'ayush'], ['ankit', 'nikhil',
'harshit', 'prashant', 'ayush'], ['ankit', 'nikhil', 'harshit',
'prashant', 'ayush'], ['ankit', 'nikhil', 'harshit', 'prashant',
'ayush'], ['ankit', 'nikhil', 'harshit', 'prashant', 'ayush'],
['ankit', 'nikhil', 'harshit', 'prashant', 'ayush'], ['ankit',
'nikhil', 'harshit', 'prashant', 'ayush']]
neeraj username is availaible
shyaa username is availaible
ankit username is availaible
aryaman username is availaible
mohan username is availaible
Ashu username is availaible
rITa username is availaible
```

Dictionary

```
favorite_languages={
    'ram':'java',
    'tim':'c',
    'sam':'python',
    'brad':'ruby'
}
```

```
language=favorite_languages['tim'].title()
print(f"Tim's favourite language is {language}")
```

```
Tim's favourite language is C
```

```
# Get method
second_language=favorite_languages.get('ram')
print(second_language)
```

```
java
```

```
del favorite_languages['brad']
print(favorite_languages)
```

```
{'ram': 'java', 'tim': 'c', 'sam': 'python'}
```

```
#loop through the dictionary
favorite_languages={
    'ram':'java',
    'tim':'c',
    'sam':'python',
    'brad':'ruby'
}
for k,v in favorite_languages.items():
    print(f"{k.title()}'s favorite language is {v.title()}'")
```

```
Ram's favorite language is Java'
Tim's favorite language is C'
Sam's favorite language is Python'
Brad's favorite language is Ruby'
```

```
# Task
details={
    'first_name':'ankit',
    'last_name':'nayan',
    'age':'22',
    'city':'delhi'
}
for info in details:
    print(f"{info}:{details[info]}")#
```

```
first_name:ankit
last_name:nayan
age:22
city:delhi
```

```
details={
    'first_name':'ankit',
    'last_name':'nayan',
    'age':'22',
    'city':'delhi'
```

```
}
print(details.keys(),details.values())
```

```
dict_keys(['first_name', 'last_name', 'age', 'city'])
dict_values(['ankit', 'nayan', '22', 'delhi'])
```

```
details={
    'first_name':'ankit',
    'last_name':'nayan',
    'age':'22',
    'city':'delhi'
}
# looping through all the keys in a dictionary
for k in details.values():
    print(k)
```

```
ankit
nayan
22
delhi
```

Working with lists and dictionaries

1.Dictionaries of list

```
# i tried writing this by myself, it is wrong
favorite_languages={
    'ram':['java'],
    'tim':['c'],
    'sam':['python','c#','go','java'],
    'brad':['ruby']
}
for person in favorite_languages:
    print(f"favorite language of {person} is - {i for i in
favorite_languages[person]}")
```

```
favorite language of ram is - <generator object <genexpr> at
0x0000028C17D42900>
favorite language of tim is - <generator object <genexpr> at
0x0000028C17D42A50>
favorite language of sam is - <generator object <genexpr> at
0x0000028C17D42900>
favorite language of brad is - <generator object <genexpr> at
0x0000028C17D42A50>
```

Dictionary of list

```
favorite_languages={
    'ram':['java'],
```

```
    'tim':['c'],
    'sam':['python','c#','go','java'],
    'brad':['ruby']
}
for k,v in favorite_languages.items():
    if(len(v)==1):
        print(f"{k.title()}'s favorite language is'")
        print(f"{v[0]}")
    else:
        print(f"{k.title()}'s favorite language are:'")
        for language in v:
            print(language.title())
```

```
Ram's favorite language is'
java
Tim's favorite language is'
c
Sam's favorite language are:'
Python
C#
Go
Java
Brad's favorite language is'
ruby
```

Assignment DAY - 3

```
cars={
    'bmw':'germany',
    'suzuki':'japan',
    'mercedes':'germany',
    'porsche':'germany',
    'tesla':'usa',
    'ferrai':'italy'
}
countries_list=['usa','japan','italy']
for brand,country in cars.items():
    if country in countries_list:
        print(f"{brand}")
```

```
suzuki
tesla
ferrai
```