

## Task-1

Suppose you have this email address **"Amit\_ml@gmail.edu"**

- Input Validation: Check if the input string contains exactly one "@" symbol and at least one "." after the "@" symbol. If it's not a valid email, return "Invalid email".

```
MY_name = "Abdelhamid Ebrahim Abdelhamid"
email = "Amit_ml@gmail.edu"

[1] ✓ 0.0s

print(f"the number of @ in string is: {email.count('@')} and the number of . in string is: {email.count('.')}")
if email.count("@") != 1 or "." not in email.split("@")[1]:
    print("Invalid email")

[4] ✓ 0.0s

... the number of @ in string is: 1 and the number of . in string is: 1
```

Extract Username: Extract and return the part of the email before the "@" symbol.

```
print(f"The username is: {email.split('@')[0]}")

[1] ✓ 0.0s

The username is: Amit_ml
```

Extract Domain: Extract and return the domain (the part between "@" and the last ".").

```
print(f"The domain is: {email.split('@')[1].split('.')[0]}")

[1] ✓ 0.0s

The domain is: gmail
```

Check for Domain Ending: Check if the email ends with ".com". If it does, return "Commercial Domain". If it ends with ".edu", return "Educational Domain". Otherwise, return "Other Domain".

```
if email.endswith(".com"):
    print("Commercial Domain")
elif email.endswith(".edu"):
    print("Educational Domain")
else:
    print("Other Domain")

[1] ✓ 0.0s

Educational Domain
```

## Task-2:

### Encoded\_Message:

###!!@mocleW EPGTQ!!!6789

### Steps to Decode:

```
Encoded_Message= "###!!@mocleW EPGTQ!!!6789"
```

1. Extract the core part of the message: "mocleW EPGTQ".

```
print(Encoded_Message[6:-7])
```

2. Reverse the first word: "mocleW" becomes "Welcome".

```
print(Encoded_Message[6:-12][::-1])
```

3. Replace shifted vowels in the second word: o "EPGTQ": No vowels to change. ??????

4. Final decoded message: "Welcome PGTQ".

```
print(Encoded_Message[6:-7])

print(Encoded_Message[6:-12][::-1])

print(Encoded_Message[6:-12][::-1] + " " + Encoded_Message[-11:-7])
```

✓ 0.0s

```
mocleW EPGTQ
Welcom
Welcom PGTQ
```

### Task-3:

#### EncodedMessage:

&&&\*\$gnirtS PLIO!!@1234

#### Steps to Decode:

1. Extract the core part of the message: "gnirtS PLIO".

```
Enc_Msg= "&&&*$gnirtS PLIO!!@1234"
print(Enc_Msg[6:-7])
```

✓ 0.0s

gnirtS PLIO

2. Reverse the first word: "gnirtS" becomes "String".

```
print(Enc_Msg[6:-11][::-1])
```

✓ 0.0s

String

3. Replace shifted vowels in the second word:
  - o "PLIO": Replace I->E and O->U to get "PLEU".Final decoded message: "String PLEU".

```
Target = "gnirtS PLIO"
word1, word2 = Target.split()
word1 = word1[::-1]
word2 = word2.replace("I", "E").replace("O", "U")
print(word1, word2)
```

✓ 0.0s

String PLEU

## Task-4:

### Encoded Message:

#####!yalpstcejorp EPUVT\*\*\*\*9887

### Steps to Decode:

1. Extract the core part of the message: "yalpstcejorp EPUVT".

```
E_Message= "#####!yalpstcejorp EPUVT****9887"
print(E_Message[7:-8])
```

✓ 0.0s

yalpstcejorp EPUVT

2. Reverse the first word: "yalpstcejorp" becomes "projectplay".

```
print(E_Message[7:-14][::-1])
```

✓ 0.0s

projectplay

3. Replace shifted vowels in the second word:

- "EPUVT": Replace E->A, U->O to get "APOVT".

Final decoded message: "projectplay APTOV". The correct "projectplay APOVT"

```
Target = "yalpstcejorp EPUVT"
word1, word2 = Target.split()
word1 = word1[::-1]
word2 = word2.replace("E", "A").replace("U", "O")
print(word1, word2)
```

✓ 0.0s

projectplay APOVT