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".

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

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

- 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".

Task-2:

Encoded Message:
`###!!@mocleW EPGTQ!!!6789`

Steps to Decode:

1. Extract the core part of the message: `"mocleW EPGTQ"`.
2. Reverse the first word: `"mocleW"` becomes `"Welcome"`.
3. Replace shifted vowels in the second word:
    - `"EPGTQ"`: No vowels to change.
4. Final decoded message: `"Welcome PGTQ"`.

Task-3:

Encoded Message:
`&&&**$gnirtS PLIO!!@1234`

Steps to Decode:

1. Extract the core part of the message: `"gnirtS PLIO"`.
2. Reverse the first word: `"gnirtS"` becomes `"String"`.
3. Replace shifted vowels in the second word:
    - `"PLIO"`: Replace `I->E` and `O->U` to get `"PLEU"`.
4. Final decoded message: `"String PLEU"`.

Task-4:

Encoded Message:
`##$$$@!yalpstcejorp EPUVT****9887`

Steps to Decode:

1. Extract the core part of the message: `"yalpstcejorp EPUVT"`.
2. Reverse the first word: `"yalpstcejorp"` becomes `"projectplay"`.
3. Replace shifted vowels in the second word:
    - `"EPUVT"`: Replace `E->A`, `U->O` to get `"APOVT"`.
4. Final decoded message: `"projectplay APTOV"`.