

## 1. Email Validator (String Filtering + Loops)

❖❖ **Real-world use:** Used in signup forms or data cleaning tasks.

**Task:**

Check if a given email is valid — must contain "@" and end with ".com" or ".org".

**Example:**

Input: hello@inceptionbd.com

Output: Valid Email

## 2. Count Word Frequency in Customer Reviews

❖❖ **Real-world use:** Analyzing reviews or comments in text analytics.

**Task:**

Given a review text, count how many times each word appears (ignore case).

**Example:**

Input: "This product is good and this service is excellent"

Output: {'this': 2, 'product': 1, 'is': 2, 'good': 1, 'and': 1, 'service': 1, 'excellent': 1}

## 3. Password Strength Checker

❖❖ **Real-world use:** Used in user authentication systems.

**Task:**

Check if a password is **strong** — must have at least one uppercase, one lowercase, one digit, and one special character.

**Example:**

Input: "Hello@123"

Output: Strong Password

## 4. Username Generator

❖❖ **Real-world use:** Automatically create usernames for users.

**Task:**

Take user's full name and generate a short username.

Rules: first 3 letters of first name + last 3 letters of last name + random

number (use loops only). **Example:**

Input: "Mamun Malitha"

Output: mamitha57

## 5. SMS Word Counter

❖❖ **Real-world use:** Used in messaging apps or social media post limit check.

**Task:**

Count how many characters and words are in a message, and tell if it exceeds 160

characters (SMS limit). **Example:**

Input: "This is a demo message."

Output: Words = 5, Characters = 23, Status = Within Limit

## 6. Remove Duplicates from Contact List

❖❖ **Real-world use:** Data cleaning in CRM or user databases.

**Task:**

Given a list of names (comma separated), remove duplicates.

**Example:**

Input: "Rahim, Karim, Rahim, Sultana"

Output: "Rahim, Karim, Sultana"

## 7. Detect Suspicious Words in Text (Moderation)

❖❖ **Real-world use:** Used in chat moderation or email filtering.

**Task:**

If any “banned” words like `['spam', 'scam', 'fake']` are found in a text, print “Warning”. **Example:**

Input: "This is a scam offer"

Output: Warning: Suspicious content detected

## 8. Invoice Code Formatter

❖❖ **Real-world use:** Formatting IDs or codes in finance or ERP systems.

**Task:**

Given an invoice number like `23`, generate code in the

format `INV00023`. **Example:**

Input: 23

Output: INV00023

## 9. Count Hashtags and Mentions (Social Media Analytics)

❖❖ **Real-world use:** Used in analyzing social media posts.

**Task:**

Count how many hashtags (#) and mentions (@) appear in a post.

**Example:**

Input: "Check out #AIWorkshop and follow @inceptionbd"

Output: Hashtags = 1, Mentions = 1

## 10. Word Reversal for Data Encryption

❖❖ **Real-world use:** Simple text obfuscation or playful encoding.

**Task:**

Reverse each word in a sentence while keeping word order the same.

**Example:**

Input: "AI is fun"

Output: "IA si nuf"