**Technical Design Document**

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**Program Description:**

This program collects user’s input for phone number, Social Security number, and ZIP code; then validates ech input using regular expressions. If the input matches, display the input.

**1. Function Name: valid\_number()**

* **Description:  
  This function checks if the given input (phone number, SSN, or ZIP code) matches the correct format using regular expressions (regex).**
* **Parameters:**
  + **number (string) – The user input that needs validation.**
  + **number\_type (string) – Specifies the type of input ("phone", "ssn", or "zip") to determine the correct regex pattern.**
* **Variables:**
  + **patterns (dictionary) – Stores regex patterns for phone numbers, SSNs, and ZIP codes.**
* **Logical Steps:**
  + 1. **Define a dictionary patterns containing regex patterns for phone numbers, SSNs, and ZIP codes.**
    2. **Use re.match() to check if the given number matches the pattern for the specified number\_type.**
    3. **If a match is found, return True; otherwise, return False.**
* **Returns:**
  + **True if the input is valid.**
  + **False if the input is invalid.**

**2. Function Name: main()**

**Description:  
This function serves as the main execution point of the program. It collects user input for a phone number, SSN, and ZIP code, validates them using valid\_number(), and displays the results.**

* **Parameters:**
  + **None**
* **Variables:**
  + **phone\_number (string) – Stores the user’s phone number input.**
  + **social\_security (string) – Stores the user’s SSN input.**
  + **zip\_code (string) – Stores the user’s ZIP code input.**
* **Logical Steps:**
  + **Prompt the user to enter their phone number.**
  + **Prompt the user to enter their Social Security number.**
  + **Prompt the user to enter their ZIP code.**
  + **Validate each input using valid\_number().**
  + **If an input is valid, display it. Otherwise, show an error message prompting the user to enter it in the correct format.**
* **Returns:**
  + **None**

**Logical Flow of Execution**

1. **Call the main() function.**
2. **Inside main(), collect user inputs for phone number, SSN, and ZIP code.**
3. **Validate each input using valid\_number().**
4. **Display the validated inputs or show error messages for invalid inputs.**

**https://github.com/khoakhi3/COP2373**

A screenshot of a computer

AI-generated content may be incorrect.