**Technical Design Document Template**

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**Program Description:**

This code has functions to validate phone numbers, social security numbers and zip codes using regular expressions. The main function gets input from a user and then displays if the phone number, social security number and zip code they entered is valid.

**Functions used in the Program (list in order as they are called):**

1. **Function Name:** phonenumb\_validation

**Description:** create function to validate phone numbers, checks input for the correct format; accepts formats with parentheses dashes spaces or with no separators

**Parameters:** phone -str: allows the phone number from the user input to be validated

**Variables:** pattern -str: it is regex pattern that checks certain conditions or formats of the phone number input

**Logical Steps:**

1. Set up the pattern with the regex function to create certain formats to be accepted
2. Re.match is used to check if the input matches the regex pattern
3. If it does match it returns the value as true otherwise, false

**Returns:** if the users input matches the regex then true is returned if not then false is returned

2. **Function Name:** ssn\_validation

**Description:** validates the social security, regex and check if it matches; this accepts formats with the common dashes as separators

**Parameters:** ssn -str: the social security input to be checked

**Variables:** pattern -str: allows the social security from the user input to be validated

**Logical Steps:**

1. Set up the pattern with the regex function to create certain formats to be accepted
2. Re.match is used to check if the input matches the regex pattern
3. If it does match it returns the value as true otherwise, false

**Returns:** if the users input matches the regex then true is returned if not then false is returned

3. **Function Name:** zipcode\_validate

**Description:** validate the zip codes regex and check if it matches; accepts 5 digits zip codes

**Parameters:** zipcode -str: the zip code input to be checked

**Variables:** pattern -str: allows the zip code from the user input to be validated

**Logical Steps:**

1. Set up the pattern with the regex function to create certain formats to be accepted
2. Re.match is used to check if the input matches the regex pattern
3. If it does match it returns the value as true otherwise, false

**Returns:** if the users input matches the regex then true is returned if not then false is returned

4. **Function Name:** main

**Description:** create main function to ask for use input and displays results

**Parameters:** N/A

**Variables:**

1. phone -str: stores the user input for phonenumber
2. ssn -str: stores the user input for social security
3. zip\_code str: stores the user input for the zip code

**Logical Steps:**

1. ask the user for their phone number, ssn, and zipcode
2. call the different validation functions to check if there are matches
3. call phonenumb\_validation()
4. call ssn\_validation()
5. call zipcode\_validate()

**Returns:** N/A

**Logical Steps:**

1. main function executed the calls the other fucntions
2. call phonenumb\_validation()
3. call ssn\_validation()
4. call zipcode\_validate()
5. then it prints the results for each input

**Link to your repository:** https://github.com/lrubioro