**Technical Design Document Template**

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**Program Description:**

This program accepts an input of a user’s phone number, social security number, and zip code and uses regular expressions to validate if the inputs are formatted correctly. The program then displays whether or not each identifier is valid.

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

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

**Description:** This function asks the user to input their phone number, Social Security Number, and their ZIP code. The function then uses the validate\_phone, validate\_ssn, and validate\_zip functions to make sure that the format in which the data the user input is correct.

**Parameters:** N/A

**Variables:**

1. phone: the phone number of the user.

2. ssn: the social security number of the user.

3. zip\_code: the zip code of the user.

**Returns:** Does not return any data. The function directly prints the returned data of the three functions called within main.

2. **Function Name:** validate\_phone()

**Description:** This function creates a pattern and returns a boolean value on whether or not the parameter matches that pattern.

**Parameters:**

1. phone: the user’s phone number that is inputted in the main function.

**Variables:**

1. phone: the phone number inputted in the main function.
2. phone\_pattern: the pattern in which the phone number is compared to.

**Logical Steps:**

1. Create the pattern to match the phone number to.
2. Return the boolean value by checking whether or not the pattern matches the parameter.

**Returns:** Returns a Boolean value (true if the phone number matches the pattern, false if not).

3. **Function Name:** validate\_ssn()

**Description:** This function creates a pattern and returns a boolean value on whether or not the parameter matches that pattern.

**Parameters:**

1. ssn: the user’s ssn that is inputted in the main function.

**Variables:**

1. ssn: the ssn inputted in the main function.
2. ssn\_pattern: the pattern in which the ssn is compared to.

**Logical Steps:**

1. Create the pattern to match the ssn to.
2. Return the boolean value by checking whether or not the pattern matches the parameter.

**Returns:** Returns a boolean value (true if the SSN matches the pattern, false if not).

4. **Function Name:** validate\_zip()

**Description:** This function creates a pattern and returns a boolean value on whether or not the parameter matches that pattern.

**Parameters:**

1. zip\_code: the user’s zip\_code that is inputted in the main function.

**Variables:**

1. zip\_code: the zip code inputted in the main function.
2. zip\_code\_pattern: the pattern in which the zip\_code is compared to.

**Logical Steps:**

1. Create the pattern to match the zip code to.
2. Return the boolean value by checking whether or not the pattern matches the parameter.

**Returns:** Returns a boolean value (true if the zip code matches the pattern, false if not).

**Logical Steps:**

1. Call the main function.
2. Calls the validate\_phone function within the main function through a print statement.
3. Calls the validate\_ssn() function within the main function through a print statement.
4. Calls the validate\_zip() function within the main function through a print statement.

**Link to your repository:** <https://github.com/7aaden/COP2373-Semester-1>

**Output Screenshot:**





