**Technical Design Document Template**

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**Program Description:**

Contains the NumberValidator class and the main function. The main function creates an instance of the NumberValidator class and calls the appropriate methods in the correct order to collect the user's phone number, social security number, and zip code, and determine if the format of those numbers is valid or not. Once that determination is made, the results are displayed.

**Functions used in the Program:**

1. **Function Name:** main

**Description:** Creates a NumberValidator object and calls the number collection and validation methods in the correct order.

**Parameters:** none

**Variables:** none

**Logical Steps:**

1. Creates an instance of the NumberValidator class.

2. Calls the get\_phone method.

3. Calls the get\_ssn method.

4. Calls the get\_zip method.

5. Calls the val\_phone method.

6. Calls the val\_ssn method.

7. Calls the val\_zip method.

**Returns:** none

2. **Function Name:** get\_phone

**Description:** Collects and stores a phone number from the user.

**Parameters:** self

**Variables:** self.phone

**Logical Steps:**

1. Stores user input to the self.phone attribute.

**Returns:** none.

3. **Function Name:** get\_ssn

**Description:** Collects and stores a social security number from the user.

**Parameters:** self

**Variables:** self.ssn

**Logical Steps:**

1. Stores user input to the self.ssn attribute.

**Returns:** none

4. **Function Name:** get\_zip

**Description:** Collects and stores a zip code from the user.

**Parameters:** self

**Variables:** self.zip

**Logical Steps:**

1. Stores user input to the self.zip attribute.

**Returns:** none

5. **Function Name:** val\_phone

**Description:** Compares the format of the stored phone number against valid formats and displays "Valid" is acceptable and "Invalid" otherwise.

**Parameters:** self

**Variables:** pattern1, pattern2, pattern3, pattern4, self.phone

**Logical Steps:**

1. Initializes patterns
2. Checks the format of self.phone against the patterns
3. Displays “Valid” if the format matches a pattern and “Invalid” otherwise.

**Returns:** none

6. **Function Name:** val\_ssn

**Description:** Compares the format of the stored social security number against valid formats and displays "Valid" if it is acceptable and "Invalid" otherwise.

**Parameters:** self

**Variables:** pattern1, pattern2, self.ssn

**Logical Steps:**

1. Initializes patterns
2. Checks the format of self.ssn against the patterns
3. Displays “Valid” if the format matches a pattern and “Invalid” otherwise.

**Returns:** none

7. **Function Name:** val\_zip

**Description:** Compares the format of the stored zip code against valid formats and displays "Valid" is acceptable and "Invalid" otherwise.

**Parameters:** self

**Variables:** pattern1, pattern2, self.zip

**Logical Steps:**

1. Initializes patterns
2. Checks the format of self.zip against the patterns
3. Displays “Valid” if the format matches a pattern and “Invalid” otherwise.

**Returns:** none

**Logical Steps:**

1. main
2. get\_phone
3. get\_ssn
4. get\_zip
5. val\_phone
6. val\_ssn
7. val\_zip

**Link to your repository:** <https://github.com/ChauncyJKent/COP2373/activity>

**Output Screenshot:**

**A computer screen shot of a program

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