**Technical Design Document Template**

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**Program Description**

Collect user input for telephone number, social security number, and zip code; and validate using regular expressions.

**Constant(s)**

1. **Name**  REGEX\_TELE\_NUM

**Type** Regular expression Pattern

**Description** Regular expression Pattern to validate telephone number.  
  
Allows:  
 (###) ###-####  
 ###-###-####  
 ###.###.####  
 ##########  
 ###-####  
 ###.####  
 #######

1. **Name**  REGEX\_SSN

**Type** Regular expression Pattern

**Description** Regular expression Pattern to validate social security number.  
  
Allows:  
 ###-##-####  
 ### ## ####  
 #########

1. **Name**  REGEX\_ZIP

**Type** Regular expression Pattern

**Description** Regular expression Pattern to validate zip code.  
  
Allows:  
 #####-####  
 ##### ####  
 #####

**Function(s)**

1. **Name**  main

**Description** *Entry function for when code is invoked directly.  
  
Retrieve telephone number, social security number, and zip code from  
user, validate each input, and display the results to user.*

**Parameter(s)**

| Name | Type | Description |
| --- | --- | --- |
|  |  |  |

**Logic**

* 1. Retrieve telephone number from user input.
  2. Retrieve social security number from user input.
  3. Retrieve zip code from user input.
  4. Validate input.
  5. Display results.

**Return(s)**

|  | Type | Description |
| --- | --- | --- |
|  |  |  |

1. **Name**  validate\_tele\_num

**Description** Validate a telephone number.

Utilizes regular expression Pattern REGEX\_TELE\_NUM to validate telephone number. If the pattern is found anywhere in the telephone number, then it is considered valid.

**Parameter(s)**

| Name | Type | Description |
| --- | --- | --- |
| tele\_num | str | The telephone number to validate. |

**Logic**

1. See description.

**Return(s)**

|  | Type | Description |
| --- | --- | --- |
|  | bool | True if the telephone number is valid, False otherwise. |

1. **Name**  validate\_ssn

**Description** Validate a social security number.

Utilizes regular expression Pattern REGEX\_SSN to validate social security number. If the pattern is found anywhere in the social security number, then it is considered valid.

**Parameter(s)**

| Name | Type | Description |
| --- | --- | --- |
| ssn | str | The social security number to validate. |

**Logic**

1. See description.

**Return(s)**

|  | Type | Description |
| --- | --- | --- |
|  | bool | True if the social security number is valid, False otherwise. |

1. **Name**  validate\_zip

**Description** Validate a zip code.

Utilizes regular expression Pattern REGEX\_ZIP to validate zip code. If the pattern is found anywhere in the zip code, then it is considered valid.

**Parameter(s)**

| Name | Type | Description |
| --- | --- | --- |
| zip\_code | str | The zip code to validate. |

**Logic**

1. See description.

**Return(s)**

|  | Type | Description |
| --- | --- | --- |
|  | bool | True if the zip code is valid, False otherwise. |

**Logic**

1. main()
2. validate\_tele\_num()
3. validate\_ssn()
4. validate\_zip()

**Link**

<https://github.com/JosephDSullivan/COP2373/blob/main/src/chapter06/jsulli40_chapter06_assignment06.py>