**Name:** Jadyn Brabham  
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**Program Description:**This program will have a user enter their phone number, social security number, and zip code. After the user inputs their data, the program will validate each of the input values using regular expressions to ensure they match the correct formats. It will then display a message indicating whether each input is valid or not.

**Functions used in the Program (list in order as they are called):**1. **Function Name:** main()  
**Description:** The main function is responsible for prompting the user to input their phone number, social security number(SSN), and zip code. It then validates each of the inputs using the respective validation functions (validate\_phone\_number(), validate\_ssn(), and validate\_zip\_code()). Finally, it displays a message indicating whether each input is valid or not.

**Parameters:** None  
**Variables:**

1. phone\_number: The phone number entered by the user.
2. ssn: The social security number entered by the user.
3. zip\_code: The zip code entered by the user.
4. is\_phone\_valid: A Boolean that holds whether the phone number is valid or not.
5. is\_ssn\_valid: A Boolean that holds whether the SSN is valid or not.
6. is\_zip\_valid: A Boolean that holds whether the zip code is valid or not.

**Logical Steps:**

1. Prompt the user to input their phone number, SSN, and zip code.
2. Call the validate\_phone\_number(phone) function
3. Call the validate\_ssn(ssn) function
4. Call the validate\_zip\_code(zip\_code) function
5. Based on the results from the validation functions, print whether the phone number, SSN, and zip code are valid or not.

**Returns:** None. The function does not return any value, but it does print messages to indicate the validity of the inputs.

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

**Description:** The validate\_phone\_number(phone) function checks if the input phone number matches one of the valid formats XXX-XXX-XXXX or (XXX) XXX-XXXX. It uses a regular expression to perform the validation.  
**Parameters:**

1. phone: A string representing the phone number entered by the user.

**Variables:**

1. pattern: A regular expression pattern that matches the valid phone number formats.

**Logical Steps**:

1. Define the regular expression pattern that matches the valid phone number formats.
2. Use re.fullmatch() to check if the phone number fully matched the pattern.
3. If the phone number matches the pattern, return True, otherwise return False.

**Returns:**

1. True: If the phone number matches the valid pattern.
2. False: If the phone number does not match the valid pattern.

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

**Description:** The validate\_ssn(ssn) function checks if the input social security number(SSN) matches the valid format XXX-XX-XXXX. It uses a regular expression to perform the validation.

**Parameters:**

1. ssn: A string representing the social security number entered by the user.

**Variables:**

1. pattern: A regular expression pattern that matches the valid SSN format.

**Logical Steps:**

1. Define the regular expression pattern that matches the valid SSN format.
2. Use re.fullmatch() to check if the SSN fully matches the pattern.
3. If the SSN matches the pattern, return True, otherwise return False.

**Returns:**

1. True: If the SSN matches the valid pattern.
2. False: If the SSN does not match the valid pattern.

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

**Description:** The validate\_zip\_code(zip\_code) function checks if the input zip\_code matches one of the valid formats: XXXXX or XXXXX-XXXX. It uses regular expression to perform the validation.

**Parameters:**

1. zip\_code: A string representing the zip code entered by the user.

**Variables:**

1. pattern: A regular expression pattern that matches the valid zip code formats.

**Logical Steps:**

1. Define the regular expression pattern that matches the valid zip code formats.
2. Use re.fullmatch() to check if the zip code fully matches the pattern.
3. If the zip code matches the pattern, return True, otherwise return False.

**Returns:**

1. True: If the zip code matches the valid pattern.
2. False: If the zip code does not match the valid pattern.

**Logical Steps:**

1. Call the main function
2. Inside the main() function, the user is prompted to enter their phone number, SSN, and zip code.
3. The validate\_phone\_number(), validate\_ssn(), and validate\_zip\_code() functions are called with the user inputs to validate each field.
4. Each validation function uses a regular expression to check if the input is valid.
5. After each validation, a result message is printed indicating whether the input is valid or not.

**Link to your repository:** <https://github.com/jbrabham23/COP2373/tree/master>

**Program Working:**

