User Input Validation Requirements

General Assumptions:

- This is only for Canadian personal (non-business) addresses.
- All input can be done in upper or lower case. Assume that the case entered is correct as entered for Name, Address, and City.
  - After validating the input, convert any lowercase characters to uppercase for the Province, Postal Code, and Phone Number.
- Even though it would be reasonable to accept foreign characters in the production version of such a program, we will not be requiring that in this version.

Name:

- Must be a maximum length of 30 characters
- Can only contain letters, French letters with diacritical marks (ie. é, è, ë, ì, î, ï, ô, ò, à, â, ç, ù), spaces, dash (-), apostrophe (') and period (.)
- Cannot begin with spaces, dash (-), apostrophe (') or period (.)
- Cannot contain any numbers.
- There cannot be more than one non-alphabetic character in any sequence of characters
- Field cannot be empty.
- The first character can be a character return, this will allow end of entry.

Street Address:

- Must be a maximum length of 60 characters
- Can contain letters, french letters with diacritical marks (ie. é, è, ë, ì, î, ï, ô, ò, à, â, ç, ù), numbers, spaces, dash (-), apostrophe (') and period (.)
- Cannot begin with spaces, dash (-), apostrophe (') or period (.)
- There cannot be more than one non-alphabetic character in any sequence of characters
- Maximum 60 character long
- String format should be: uuu-hh StreetName StreetType Direction
  - hh must be numbers, refers to house or building number
  - uuu can be numbers or letters or both.
  - The dash between uuu and hh only used when uuu is used.
  - StreetName must be all letters
  - StreetType must contain the following type or abbreviations can be used
    - Road (RD)
    - Street （ST）
    - Avenue (AV)
    - Circle (CIR)

- - - Boulevard (BLVD)
    - Lane
    - Court (CT)
  - Directions field only required if available. If it is presented, it must only contain the following or abbreviations
    - North (N)
    - South (S)
    - East (E)
    - West (W)

- Field can be skipped if the first character is a character return.

City:

- Must be a maximum length of 60 characters
- Can only contain letters, french letters with diacritical marks (ie. é, è, ë, ì, î, ï, ô, ò, à, â, ç, ù), spaces, dash (-) or period (.).
- Cannot begin with spaces, dash (-), apostrophe (') or period (.)
- Cannot contain numbers.
- There cannot be more than one space in a row
- Field can be skipped if the first character is a character return.

Provinces:

- Must only be 2 characters long
- Must be 2 characters that represent an existing province of Canada. This includes: ON, BC, QC, AB, MB, NB, NL, NS, NT, NU, PE, SK, YT (can also be lower case.)
- User can enter an sequence of upper and lower case characters, it will be formatted consistently later
- User can enter an sequence of upper and lower case characters
- Field can be skipped if first character is a character return.

Postal Code

- Must be 6-7 characters in length.
- The first character can only consist of these letters: ABCEGHJKLMNPRSTVXY
- The second character can be any number from $0 – 9$
- The third character can only consist of these letters: ABCEGHJKLMNPRSTVWXYZ
- The fourth character can be a space, if this is the case the length of the postal code must be 7 characters. Otherwise it is 6 characters.
- If the fourth character is not a space, than it can only be any number from $0 – 9$

- The fifth character if there is no space in the field can only consist of these letters: ABCEGHJKLMNPRSTVWXYZ, if there is a space present in the field than the fifth character can only be any number from 0 - 9
- The sixth character can only be any number from 0 – 9, if there is a space present in the field than the sixth character can only consist of the following letters: ABCEGHJKLMNPRSTVWXYZ,
- The seventh character (which is only present when there is a space in the field) can only be any number from 0 – 9.
- If the first character is a character return the program will prompt for the next field.

Telephone:

- The following formats are allowed:
  - (519) 555-1234
  - 519-555-1234
  - 5195551234
  - 519.555.1234
- Area code is restricted to
  - Alberta
    - 403 area code
    - 587 area code
    - 780 area code
  - British Columbia
    - 236 area code
    - 250 area code
    - 604 area code
    - 778 area code
  - Manitoba
    - 204 area code
    - 431 area code
  - New Brunswick
    - 506 area code
  - Newfoundland
    - 709 area code
  - Northwest Territories
    - 867 area code
  - Nova Scotia
    - 902 area code
  - Nunavut
    - 867 area code
  - Ontario
    - 226 area code
    - 249 area code

- ■ 289 area code
- ■ 343 area code
- ■ 365 area code
- ■ 416 area code
- ■ 437 area code
- ■ 519 area code
- ■ 613 area code
- ■ 647 area code
- ■ 705 area code
- ■ 807 area code
- ■ 905 area code
- ○ Quebec
  - ■ 418 area code
  - ■ 438 area code
  - ■ 450 area code
  - ■ 514 area code
  - ■ 579 area code
  - ■ 581 area code
  - ■ 819 area code
  - ■ 873 area code
- ○ Saskatchewan
  - ■ 306 area code
  - ■ 639 area code
- ○ Yukon
  - ■ 867 area code