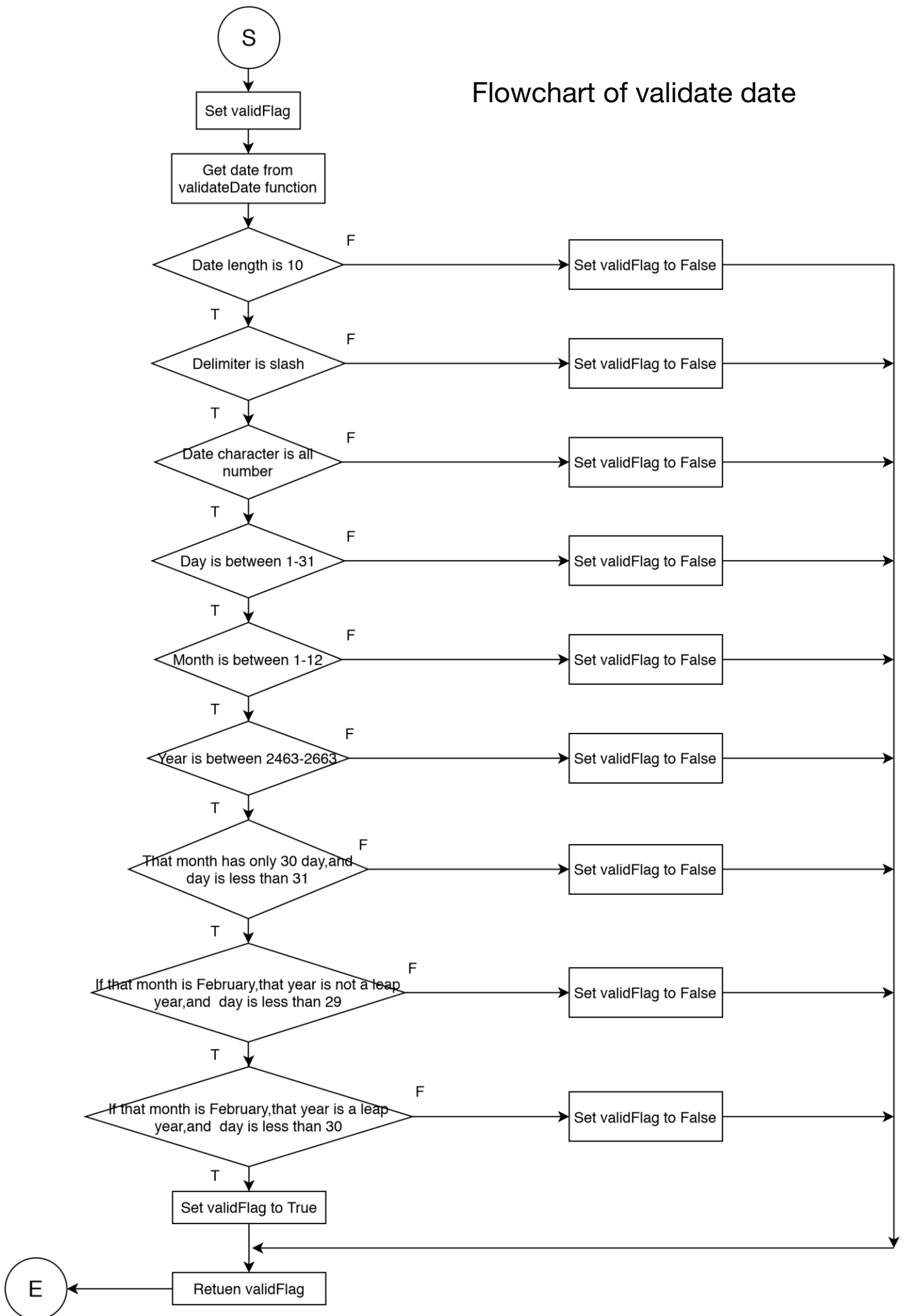# Project1

Validation

1. Validate date in form dd/mm/yyyy

2. Validate CPE student ID number

3. Validate street address in Bangkok

4. Validate IP address
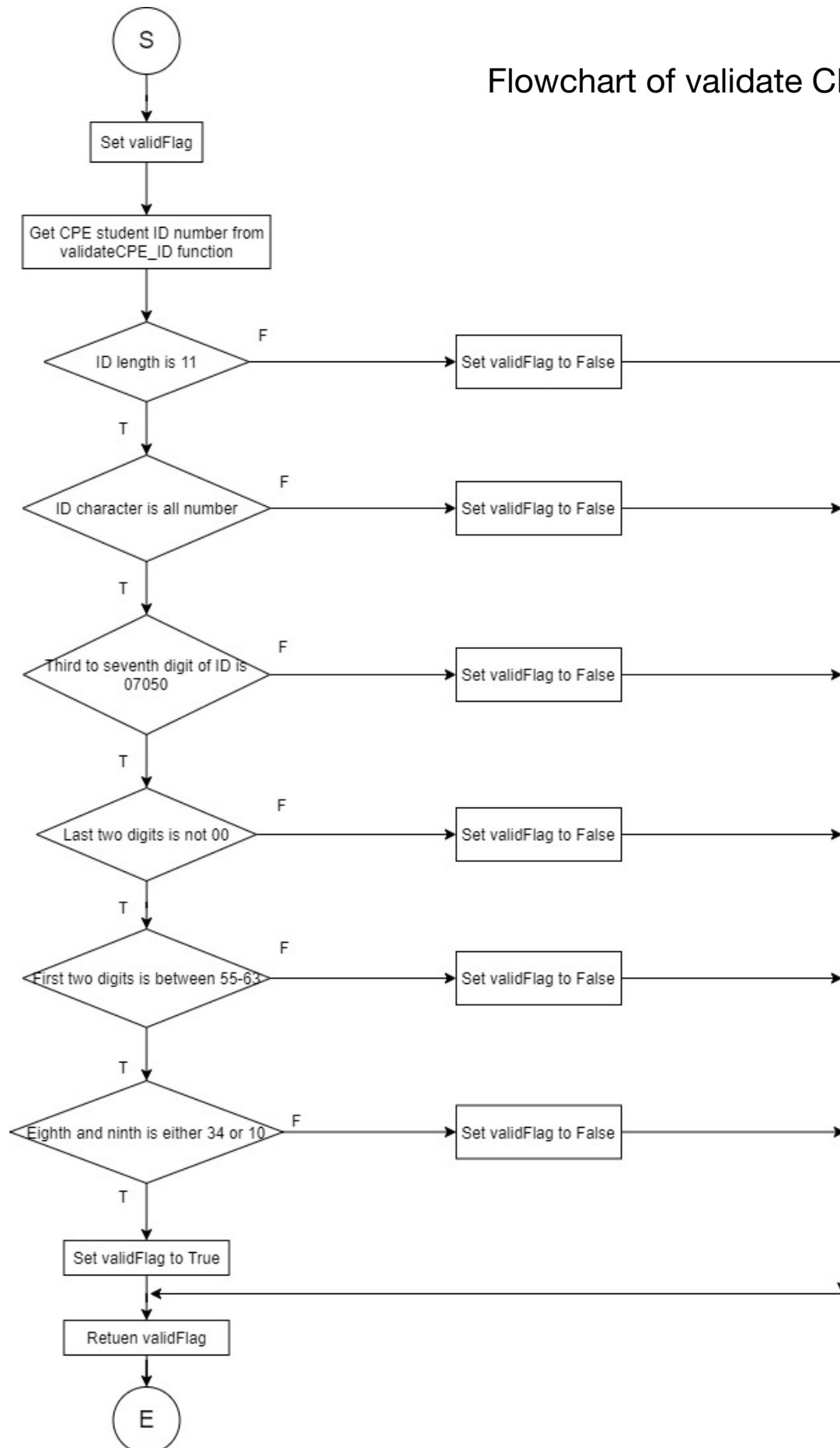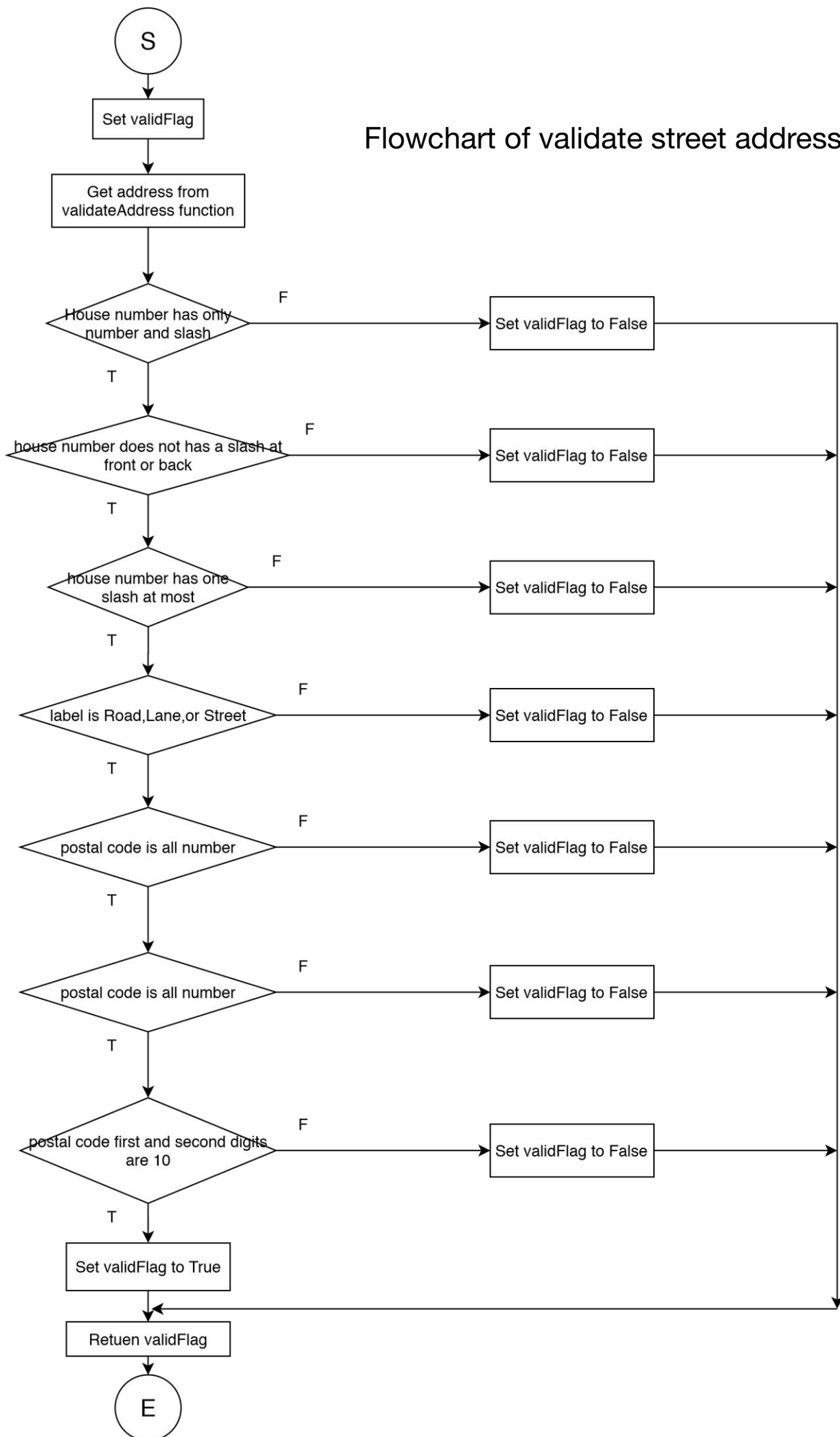
Created by Nattapong Saengarunvong (Milo)

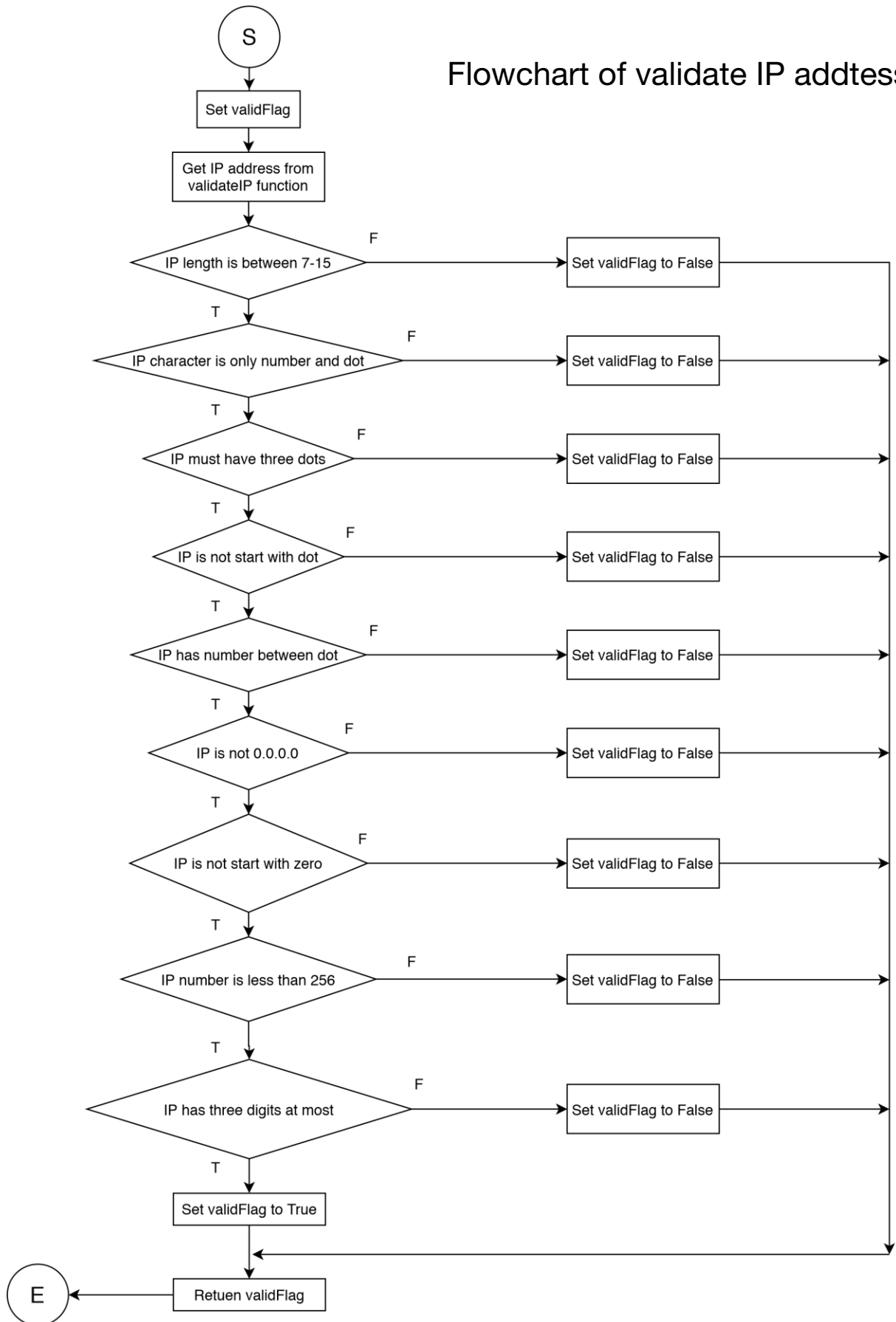ID: 63070503415

Flowchart of validate date

```
                    ( S )
                      |
                      v
             [ Set validFlag ]
                      |
                      v
          [ Get date from
            validateDate function ]
                      |
                      v
         < Date length is 10 > ──F──> [ Set validFlag to False ] ──────────┐
                      | T                                                   |
                      v                                                     |
         < Delimiter is slash > ──F──> [ Set validFlag to False ] ─────────┤
                      | T                                                   |
                      v                                                     |
      < Date character is all ──F──> [ Set validFlag to False ] ───────────┤
            number >                                                        |
                      | T                                                   |
                      v                                                     |
      < Day is between 1-31 > ──F──> [ Set validFlag to False ] ───────────┤
                      | T                                                   |
                      v                                                     |
    < Month is between 1-12 > ──F──> [ Set validFlag to False ] ───────────┤
                      | T                                                   |
                      v                                                     |
   < Year is between 2463-2663 > ──F──> [ Set validFlag to False ] ────────┤
                      | T                                                   |
                      v                                                     |
  < That month has only 30 day,and ──F──> [ Set validFlag to False ] ──────┤
        day is less than 31 >                                               |
                      | T                                                   |
                      v                                                     |
 < If that month is February,that year is not a leap ──F──> [ Set validFlag to False ] ─┤
    year,and day is less than 29 >                                          |
                      | T                                                   |
                      v                                                     |
 < If that month is February,that year is a leap ──F──> [ Set validFlag to False ] ─────┤
    year,and day is less than 30 >                                          |
                      | T                                                   |
                      v                                                     |
          [ Set validFlag to True ]                                         |
                      |                                                     |
                      v <───────────────────────────────────────────────────┘
   ( E ) <── [ Retuen validFlag ]
```

Flowchart of validate CPE ID

```
                    ( S )
                      |
                      v
              [ Set validFlag ]
                      |
                      v
        [ Get CPE student ID number from
            validateCPE_ID function ]
                      |
                      v
              < ID length is 11 >  --F-->  [ Set validFlag to False ]
                      |
                      T
                      v
         < ID character is all number >  --F-->  [ Set validFlag to False ]
                      |
                      T
                      v
       < Third to seventh digit of ID is
                   07050 >  --F-->  [ Set validFlag to False ]
                      |
                      T
                      v
         < Last two digits is not 00 >  --F-->  [ Set validFlag to False ]
                      |
                      T
                      v
      < First two digits is between 55-63 >  --F-->  [ Set validFlag to False ]
                      |
                      T
                      v
    < Eighth and ninth is either 34 or 10 >  --F-->  [ Set validFlag to False ]
                      |
                      T
                      v
            [ Set validFlag to True ]
                      |
                      v
            [ Retuen validFlag ]
                      |
                      v
                    ( E )
```

Flowchart of validate street address

```
              ( S )
                |
          [ Set validFlag ]
                |
    [ Get address from
      validateAddress function ]
                |
                v
      < House number has only >---- F ----> [ Set validFlag to False ]----+
      <  number and slash     >                                           |
                |                                                          |
                T                                                          |
                v                                                          |
  < house number does not has a slash at >-- F --> [ Set validFlag to False ]-->
  <          front or back               >                                    |
                |                                                              |
                T                                                              |
                v                                                              |
      < house number has one >---- F ----> [ Set validFlag to False ]-------->
      <    slash at most      >                                                |
                |                                                              |
                T                                                              |
                v                                                              |
      < label is Road,Lane,or Street >-- F --> [ Set validFlag to False ]---->
                |                                                              |
                T                                                              |
                v                                                              |
      < postal code is all number >---- F ----> [ Set validFlag to False ]--->
                |                                                              |
                T                                                              |
                v                                                              |
      < postal code is all number >---- F ----> [ Set validFlag to False ]--->
                |                                                              |
                T                                                              |
                v                                                              |
  < postal code first and second digits >-- F --> [ Set validFlag to False ]->
  <              are 10                  >                                     |
                |                                                              |
                T                                                              |
                v                                                              |
        [ Set validFlag to True ]                                             |
                |                                                              |
                v                                                              |
         [ Retuen validFlag ] <----------------------------------------------+
                |
                v
              ( E )
```

S

Set validFlag

Get IP address from
validateIP function

IP length is between 7-15 — F → Set validFlag to False

T

IP character is only number and dot — F → Set validFlag to False

T

IP must have three dots — F → Set validFlag to False

T

IP is not start with dot — F → Set validFlag to False

T

IP has number between dot — F → Set validFlag to False

T

IP is not 0.0.0.0 — F → Set validFlag to False

T

IP is not start with zero — F → Set validFlag to False

T

IP number is less than 256 — F → Set validFlag to False

T

IP has three digits at most — F → Set validFlag to False

T

Set validFlag to True

Retuen validFlag → **E**

Flowchart of validate IP addtess

Testing run of validate date

```
Validation options:
        1-Check date in form dd/mm/yyyy-Buddhist year
        2-Check CPE student ID number
        3-Check street address in Bangkok
        4-Check IP address
        5-Exit the program
What do you want to do?1

Validate date in form dd/mm/yyyy-Buddhist year(Hit return to stop)
        Enter date in form dd/mm/yyyy-Buddhist year:12/10/2561
                Valid
        Enter date in form dd/mm/yyyy-Buddhist year:03/05/2663
                Valid
        Enter date in form dd/mm/yyyy-Buddhist year:11/12/2463
                Valid
        Enter date in form dd/mm/yyyy-Buddhist year:29/02/2555
                Valid
        Enter date in form dd/mm/yyyy-Buddhist year:29/02/2563
                Valid
        Enter date in form dd/mm/yyyy-Buddhist year:30/06/2475
                Valid
        Enter date in form dd/mm/yyyy-Buddhist year:31/07/2610
                Valid
        Enter date in form dd/mm/yyyy-Buddhist year:12/aa/2560
                Not valid - Day,month and year must be a number
        Enter date in form dd/mm/yyyy-Buddhist year:oq/09/2510
                Not valid - Day,month and year must be a number
        Enter date in form dd/mm/yyyy-Buddhist year:31/06/2560
                Not valid - This month has only 30 days
        Enter date in form dd/mm/yyyy-Buddhist year:32/09/2610
                Not valid - Day must be between 1 to 31
        Enter date in form dd/mm/yyyy-Buddhist year:30/13/2521
                Not valid - Month must be between 1 to 12
        Enter date in form dd/mm/yyyy-Buddhist year:12/12/2017
                Not valid - Year must be between 2463 to 2663
        Enter date in form dd/mm/yyyy-Buddhist year:29/02/2554
                Not valid - This year is not a leap yaer
        Enter date in form dd/mm/yyyy-Buddhist year:9/8/2449
                Not valid - Input must be in form dd/mm/yyyy
        Enter date in form dd/mm/yyyy-Buddhist year:09-12-2599
                Not valid - Delimiter must be /
        Enter date in form dd/mm/yyyy-Buddhist year:09/12/2699
                Not valid - Year must be between 2463 to 2663
        Enter date in form dd/mm/yyyy-Buddhist year:_
```

Testing run of validate CPE ID

C:\Users\HP\Desktop\Project1.exe

```
Validation options:
        1-Check date in form dd/mm/yyyy-Buddhist year
        2-Check CPE student ID number
        3-Check street address in Bangkok
        4-Check IP address
        5-Exit the program
What do you want to do?2

Validate CPE student ID number(Hit return to stop)
        Enter CPE student ID number:56070503412
                Valid
        Enter CPE student ID number:60070501023
                Valid
        Enter CPE student ID number:59070501001
                Valid
        Enter CPE student ID number:61070503499
                Valid
        Enter CPE student ID number:62070501001
                Valid
        Enter CPE student ID number:63070503499
                Valid
        Enter CPE student ID number:54070503412
                Not valid - First two ID digits must be between 55 to 63
        Enter CPE student ID number:5607053412
                Not valid - ID must be 11 digits
        Enter CPE student ID number:590705A3422
                Not valid - ID must be only number
        Enter CPE student ID number:59660503457
                Not valid - ID must have 07050 in the middle
        Enter CPE student ID number:57070503400
                Not valid - Last two ID digits must not be 00
        Enter CPE student ID number:62070501153
                Not valid - Digit 8 and 9 must be either 34 or 10
        Enter CPE student ID number:6307 503499
                Not valid - ID must be 11 digits
        Enter CPE student ID number:_
```

Testing run of street address

```
Validation options:
        1-Check date in form dd/mm/yyyy-Buddhist year
        2-Check CPE student ID number
        3-Check street address in Bangkok
        4-Check IP address
        5-Exit the program
What do you want to do?3

Validate street address in Bangkok(Hit return to stop)
        Enter street address in Bangkok:2 Sukhumvit Road 10110
                Valid
        Enter street address in Bangkok:43/219 Thonglor 10234
                Valid
        Enter street address in Bangkok:150 16 Lane 10322
                Valid
        Enter street address in Bangkok:924/8 Prachautid Street 10140
                Valid
        Enter street address in Bangkok:Sukhumvit Road 10110
                Not valid - House number must have only number and slash
        Enter street address in Bangkok:43a Mountain Street 10211
                Not valid - House number must have only number and slash
        Enter street address in Bangkok:4/3/11 RamaI Road 10119
                Not valid - House number has 1 slash at most
        Enter street address in Bangkok:45/ Prachautid Road 10140
                Not valid - House number must not start or end with slash
        Enter street address in Bangkok:/120 Prachautid Street 10210
                Not valid - House number must not start or end with slash
        Enter street address in Bangkok:45/10 Prachautid Road 13111
                Not valid - Postal code must begin with 10
        Enter street address in Bangkok:21 Thonglor Lane 1022
                Not valid - Postal code must have 5 digits
        Enter street address in Bangkok:54/8 Thonglor Road 10BBC
                Not valid - Postal code must be only a number
        Enter street address in Bangkok:_
```

Testing run of IP address

```
Validation options:
        1-Check date in form dd/mm/yyyy-Buddhist year
        2-Check CPE student ID number
        3-Check street address in Bangkok
        4-Check IP address
        5-Exit the program
What do you want to do?4

Validate IP address(Hit return to stop)
        Enter IP address:202.44.12.16
                Valid
        Enter IP address:1.5.003.20
                Valid
        Enter IP address:2.2.0.0
                Valid
        Enter IP address:55.126.200.255
                Valid
        Enter IP address:255.255.255.255
                Valid
        Enter IP address:21.0.0.0
                Valid
        Enter IP address:300.10.02.10
                Not valid - IP address number must not be more than 255
        Enter IP address:41.AA.21.210
                Not valid - IP address must be only number and dot
        Enter IP address:0.0.0.0
                Not valid - IP address must not be 0.0.0.0
        Enter IP address:0.21.32.255
                Not valid - IP address must not start with 0
        Enter IP address:20.15.26.50.14
                Not valid - IP address must have 3 dots
        Enter IP address:22..43.012.23
                Not valid - IP address must have 3 dots
        Enter IP address:201..54.31
                Not valid - IP address must have numbers between dot
        Enter IP address:20.5.6.00001
                Not valid - IP number must have 3 digits at most
        Enter IP address:_
```

Summary

```
Validation options:
        1-Check date in form dd/mm/yyyy-Buddhist year
        2-Check CPE student ID number
        3-Check street address in Bangkok
        4-Check IP address
        5-Exit the program
What do you want to do?5

Program run summary:
        Validation type 1: 17
        Validation type 2: 13
        Validation type 3: 12
        Validation type 4: 14
Goodbye!

--------------------------------
Process exited after 1929 seconds with return value 0
Press any key to continue . . .
```