CSC2402
Assignment 2
Author: Cameron Duncan-Kemp
Student ID: u1032841

Task 1:

Error Output:

```
 This program assigns seats for a commercial airplane.
 The current seat assignments is as follows.
        A   B   C   D   E   F
Row 1   X   X   *   *   *   *
Row 2   *   X   X   *   *   *
Row 3   *   *   *   X   X   X
Row 4   *   *   *   *   *   *
Row 5   X   *   *   *   *   *
Row 6   X   *   *   *   *   *
Row 7   X   *   *   *   *   *
Row 8   *   *   *   *   *   *
Row 9   *   *   *   *   *   *
Row 10   *   *   *   *   *   *
Row 11   *   *   *   *   *   *
Row 12   *   *   *   *   *   *
Row 13   X   X   X   X   X   X
 * -- available seat
 X -- occupied seat
Rows 1 and 2 are for first class passengers.
Rows 3 through 7 are for business class passengers.
Rows 8 through 13 are for economy class passengers.

Enter ticket type: F/f (first class); (B/b) (business class); E/e (economy class): f

Enter Row Number 1 - 2: 1

Enter seat number (A - F): B

*#*#*#*# This seat is occupied *#*#*#*#
Make another selection.
```

Seat Layout:

```
 This program assigns seats for a commercial airplane.
 The current seat assignments is as follows.
        A   B   C   D   E   F
Row 1   X   X   *   *   *   *
Row 2   *   X   X   *   *   *
Row 3   *   *   *   X   X   X
Row 4   *   *   *   *   *   *
Row 5   X   *   *   *   *   *
Row 6   X   *   *   *   *   *
Row 7   X   *   *   *   *   *
Row 8   *   *   *   *   *   *
Row 9   *   *   *   *   *   *
Row 10   *   *   *   *   *   *
Row 11   *   *   *   *   *   *
Row 12   *   *   *   *   *   *
Row 13   X   X   X   X   X   X
 * -- available seat
 X -- occupied seat
Rows 1 and 2 are for first class passengers.
Rows 3 through 7 are for business class passengers.
Rows 8 through 13 are for economy class passengers.
```

Task 2:

Output

```
Input number: 1
Input number: 2
Input number: 3
Input number: 4
Input number: 5
Input number: 6
Input number: 7
Input number: 8
Input number: 9
Input number: 10
Input number: 11
Input number: 12
Input number: 13
Input number: 14
Input number: 15
Input number: 16
Input number: 17
Input number: 18
Input number: 19
Input number: 20
Number entered: 1
Number doubled: 2
Number entered: 2
Number doubled: 4
Number entered: 3
Number doubled: 6
Number entered: 4
Number doubled: 8
Number entered: 5
Number doubled: 10
Number entered: 6
Number doubled: 12
Number entered: 7
Number doubled: 14
Number entered: 8
Number doubled: 16
Number entered: 9
Number doubled: 18
Number entered: 10
Number doubled: 20
Number entered: 11
Number doubled: 22
Number entered: 12
Number doubled: 24
Number entered: 13
Number doubled: 26
Number entered: 14
Number doubled: 28
Number entered: 15
Number doubled: 30
Number entered: 16
Number doubled: 32
Number entered: 17
Number doubled: 34
Number entered: 18
```

Number doubled: 36
Number entered: 19
Number doubled: 38
Number entered: 20
Number doubled: 40
Matrix row/col: 0/0 equals: 1
Matrix row/col: 0/1 equals: 2
Matrix row/col: 0/2 equals: 3
Matrix row/col: 0/3 equals: 4
Matrix row/col: 1/0 equals: 5
Matrix row/col: 1/1 equals: 6
Matrix row/col: 1/2 equals: 7
Matrix row/col: 1/3 equals: 8
Matrix row/col: 2/0 equals: 9
Matrix row/col: 2/1 equals: 10
Matrix row/col: 2/2 equals: 11
Matrix row/col: 2/3 equals: 12
Matrix row/col: 3/0 equals: 13
Matrix row/col: 3/1 equals: 14
Matrix row/col: 3/2 equals: 15
Matrix row/col: 3/3 equals: 16
Matrix row/col: 4/0 equals: 17
Matrix row/col: 4/1 equals: 18
Matrix row/col: 4/2 equals: 19
Matrix row/col: 4/3 equals: 20
Matrix row/col: 5/0 equals: 2
Matrix row/col: 5/1 equals: 4
Matrix row/col: 5/2 equals: 6
Matrix row/col: 5/3 equals: 8
Matrix row/col: 6/0 equals: 10
Matrix row/col: 6/1 equals: 12
Matrix row/col: 6/2 equals: 14
Matrix row/col: 6/3 equals: 16
Matrix row/col: 7/0 equals: 18
Matrix row/col: 7/1 equals: 20
Matrix row/col: 7/2 equals: 22
Matrix row/col: 7/3 equals: 24
Matrix row/col: 8/0 equals: 26
Matrix row/col: 8/1 equals: 28
Matrix row/col: 8/2 equals: 30
Matrix row/col: 8/3 equals: 32
Matrix row/col: 9/0 equals: 34
Matrix row/col: 9/1 equals: 36
Matrix row/col: 9/2 equals: 38
Matrix row/col: 9/3 equals: 40

Task 3:

Output:

```
Print the roman representation of the values
I
XXIV
XXXIII
Default romanType constructor with no parameter
Default romanType variable as Roman = I
Default romanType variable as number = 1
Setting the default romanType value to 44
Default romanType variable as Roman = XLIV
Default romanType variable as value = 44
Get roman and value from the string constructor
String constructor romanType variable as Roman = XXIV
String constructor romanType variable as value = 24
Get roman and value from the integer constructor
Number constructor romanType variable as Roman = XXXIII
Number constructor romanType variable as number = 33
Increment and Decrement on romanTypes
Increment class method on a romanType before XXXIII After call to class method inc XXXIV
Decrement class method on a romanType before XXXIV After call to class method dec XXXIII
Add using function method on romanTypes
Add two romanType using top level function XXIV plus XXXIII = LVII
Add using overloaded function method on romanTypes and integer
Add two romanType using top level function XXIVplus 12 = XXXVI
Using class method for addition of romanTypes XXIV plus  XXXIII Result = LVII
Using overloaded class method for addition of romanType and integer LVII plus 12, Result = LXIX
Roman Times Table base 6 12 times
I * VI  =     VI
II * VI  =    XII
III * VI  =  XVIII
IV * VI  =   XXIV
V * VI  =    XXX
VI * VI  =  XXXVI
VII * VI  =   XLII
VIII * VI  =  XLVIII
IX * VI  =    LIV
X * VI  =     LX
XI * VI  =   LXVI
XII * VI  =  LXXII
```