Answers to Question Set 3

Date: 22/04/2020 Name: D.Saravanan

Question 1:

Write a python program to find the number of vowels present in a string given by an user.

Program:

```
strn = input("Enter a string: ")
vlst = ['a', 'e', 'i', 'o', 'u']; count = 0
for n in strn.lower():
    if(n in vlst): count += 1
print('Number of vowels in "{}" are {}.'.format(strn, count))
```

Output:

```
Enter a string: Institute of Fundamental Research
Number of vowels in "Institute of Fundamental Research" are 12.
```

Question 2:

Write a python program to display all the possible combination pair of the given two lists
x=[1,2,3,4,5]
y=[”a”,”b”,”c”]

Program:

```
x = [1,2,3,4,5]; y = ["a","b","c"]
print([(m,n) for m in x for n in y])
```

Output:

```
[(1, 'a'), (1, 'b'), (1, 'c'), (2, 'a'), (2, 'b'), (2, 'c'), (3, 'a'), (3, 'b'), (3, 'c')
    , (4, 'a'), (4, 'b'), (4, 'c'), (5, 'a'), (5, 'b'), (5, 'c')]
```

Question 3:

Write a python program to get number of lines from the user and print the patterns.

Program: Level 1

```
N = int(input("Enter the number of lines to print: "))
for i in range(1,N+1): print((str(i) + " ") * i)
```

Output: Level 1

```
Enter the number of lines to print: 9
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
6 6 6 6 6 6
7 7 7 7 7 7 7
8 8 8 8 8 8 8 8
9 9 9 9 9 9 9 9 9
```

Program: Level 2

```
N = int(input("Enter the number of lines to print: "))
for i in range(1,N+1): print(((N-i) * " ") + (str(i) + " ") * i)
```

Output: Level 2

```
Enter the number of lines to print: 9
        1
       2 2
      3 3 3
     4 4 4 4
    5 5 5 5 5
   6 6 6 6 6 6
  7 7 7 7 7 7 7
 8 8 8 8 8 8 8 8
9 9 9 9 9 9 9 9 9
```

Program: Level 3

```
N = int(input("Enter the number of lines to print: "))
for i in range(1,N+1): print(((N-i) * " ") + (str(i) + " ") * i)
for i in reversed(range(1,N)): print(((N-i) * " ") + (str(i) + " ") * i)
```

Output: Level 3

```
Enter the number of lines to print: 9
        1
       2 2
      3 3 3
     4 4 4 4
    5 5 5 5 5
   6 6 6 6 6 6
  7 7 7 7 7 7 7
 8 8 8 8 8 8 8 8
9 9 9 9 9 9 9 9 9
 8 8 8 8 8 8 8 8
  7 7 7 7 7 7 7
   6 6 6 6 6 6
    5 5 5 5 5
     4 4 4 4
      3 3 3
       2 2
        1
```