Getting Started with Python (Hands-on 2)

Module 1 -

Problem Statement:
The computations on several operations can be a tedious task for some. Your company has assigned a task for you to minimize the effort and enhance the productivity for several of these tasks. Simple tasks like finding the larger number among the lot, or changing the digits of a given number, etc.

Tasks To be Performed:

1. For a given list that contains numbers from 1 to 20. Using a for loop, create a new list that contains the square of each element from the given list.
2. For a given dictionary that contains numbers from 1-10 as keys, and their square as values, display each key-value pair using a for loop.
3. A tuple contains even numbers from 1-20. Display all the items in a tuple using a for loop.
4. A set contains odd numbers from 1-20. Display the items in a set using a for loop.
5. For a given sequence of nested lists, display the elements using a for loop.
   a = [[1,2],[3,4],[5,6],[7,8]]
6. For a given sequence of nested dictionaries, display all the values in the dictionary.
   a = {1: {'one':1}, 2: {'two':2}, 3: {'three':3}}
7. For a given list of natural numbers from 1-100, using the while loop, print only the numbers that are divisible by 2.
8. Print the first 5 multiples of 3 using a while loop.
9. For a given dictionary that contains the first 10 natural numbers as keys, and their cubes as values, display the key value pairs using a while loop.
10. Write a program using a while loop demonstrating the usage of break, continue and pass statements along with if else statements.
11. Write a program using a for loop demonstrating the usage of break, continue and pass statements along with if else statements.
12. Create a nested for loop to print a pyramid pattern program in python.