Q.1. What are keywords in python? Using the keyword library, print all the python keywords.
ANS:- Keywords are predefined terms in python that help us to code.

```
import keyword
print(keyword.kwlist)
['False', 'None', 'True', 'and', 'as', 'assert', 'async', 'await',
'break', 'class', 'continue', 'def', 'del', 'elif', 'else', 'except',
'finally', 'for', 'from', 'global', 'if', 'import', 'in', 'is',
'lambda', 'nonlocal', 'not', 'or', 'pass', 'raise', 'return', 'try',
'while', 'with', 'yield']
```

Q.2. What are the rules to create variables in python?
ANS:-
 A variable name cannot start with numbers or special characters.
 A variable can only start with underscore or any alphabet.
 A variable is case sensitive age,AGE,Age all are different .

Q.3. What are the standards and conventions followed for the nomenclature of variables in Python to improve code readability and maintainability?
ANS:-
Instance variable names should follow the lowercase convention. Have the underscore as a separator while naming a multi-word instance variable. Begin a non-public instance variable name with a single underscore. Use two consecutive underscores at the beginning of a private variable.

Q.4. What will happen if a keyword is used as a variable name?
ANS:-
Keywords are the words in a programming language which have a special meaning decided by the language. So we cannot use them as a variable as we cannot assign any value to them since keywords are also case sensitive so we can use them in other formats eg True instead we can use true.

Q.5. For what purpose def keyword is used?
ANS:-
    def is short for "define". It's a keyword that you need to define a function in python.

Q.6. What is the operation of this special character '\'?
ANS:-
 This special character is called BackslashDifferentiates the file location in the network path or URL.

Q.7. Give an example of the following conditions:
(i) Homogeneous list
(ii) Heterogeneous set
(iii) Homogeneous tuple
ANS:-
 i) list1 = [1,2,3,4]
ii) set1 = set(1, "hello" , True , 23.45)
iii) tuple = (1,2,3,4)

Q.8. Explain the mutable and immutable data types with proper explanation & examples.
ANS:-
Mutable objects are those which allow changing of data without affecting the object's identity,whereas immutable data types once formed can not be changed.
Eg. list is mutable tuple is immutable
List1 = [1,2,3,4]
Tuple1 = (1,2,3)

Q.9. Write a code to create the given structure using only for loop.
```
    *
   ***
  *****
 *******
*********
```
ANS:-
```python
rows = 5 # Number of rows in the pattern


# Outer loop for each row
for i in range(rows):
    # Inner loop for printing spaces
    for j in range(rows - i - 1):
        print(" ", end="")


    # Inner loop for printing asterisks
    for k in range(2 * i + 1):
        print("*", end="")


    print()  # Move to the next line after each row
```

Q.10. Write a code to create the given structure using a while loop.
```
|||||||||
 |||||||
  |||||
   |||
    |
```
ANS:-
```python
rows = 4   # Number of rows in the pyramid


spaces = rows   # Number of spaces in each row


while rows >= 0:
    print(" " * spaces + "|" * (2 * rows + 1))
    rows -= 1
    spaces += 1
```