**ASSIGNMENT 6 SOLUTION**

**[1]  keywords are reserved words that can not be used as a variable name, function name, or any other identifier.**

**Code:    import keyword**

**print(keyword.kwlist)**

**Output:** ['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']

**[2]**  **Rules for Python variables**

**i) A Python variable name must start with a letter/alphabet or the underscore character.**

ii) **A Python variable name cannot start with a number.**

iii) **A Python variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and \_ ).**

iv) **Variable in Python names are case-sensitive (name, Name, and NAME are three different variables).**

**v) The [reserved words(keywords)](https://www.geeksforgeeks.org/python-keywords-and-identifiers/" \t "https://inc-word-edit.officeapps.live.com/we/_blank) in Python cannot be used to name the variable in Python.**

**[3]    a)  we need to start create variable with lowercase or underscore**

**b) Try to give relatable variable name with the things like suppose I need to create variable for     Animals so we need to give name animal = 25;**

**c) we need to follow camel case for variable name.**

**d) try to avoid duplicate variable.**

**[4]     import = 25**

**Print(import)  à  It will throw syntax error like SyntaxError: invalid syntax**

**[5]     def keyword used for the function definition or creation.**

**def fun1():**

**Pass**

**func1()**

**[6]** In Python, the backslash(\) is a special character. If we use the backslash in front of another character, it changes the meaning of that character. We also called escape character.

For example, the t is a literal character. But if we use the backslash character in front of the letter t, it’ll become the tab character (\t).

print(“Awanish is Learning DataScience\nHe is also doing preparation for Placement.”)

Above print statement output will be in 2 lines because “\n” used for new line.

**[7]  (i)  HOMOGENEOUS LIST       à   [1,2,3,4,5,6]**

**(ii) HETEROGENEOUS SET     à  {1,’Awanish’,45,67.56,True}**

**(iii)  HOMOGENEOUS TUPLE à   (1,3,5,7,9)**

**[8]     mutable means we can change, update, remove, etc… the data.**

**e.g; list is mutable object.**

**l1 = [3,5,7,9]**

**l1[2] = 24**

**print(l1)  à  output:- [3,5,24,9]**

**Immutable means we can’t change/update after it’s creation.**

**e.g; Tuple, string are immutable objects.**

**l1 = (3,5,7,9)**

**l1[2] = 24**

**print(l1)  à  it will throw TypeError: 'tuple' object does not support item assignment.**

**[9]** def triangle(n):

k = n - 1

for i in range(0, n):

for j in range(0, k):

print(end=" ")

k = k - 1

for j in range(0, i+1):

print("\* ", end="")

print("\r")

n = 5

triangle(n)

**[10]** size = int(input("Enter the size: "))

 for i in range(size):

    for j in range(i):

               print(' ', end='')

                 for j in range(2 \* (size - i - 1) + 1):

                    print('\*', end='')

                 print()