Python_advance_assignment_14

Q1. Is an assignment operator like += only for show? Is it possible that it would lead to faster results at theruntime ?

In [ ]:

```
Ans: A = A+1 evaluates to finding A, adding 1 to it.Then storing the value again
in variable A.
This expression makes Python to look for memory holder of a twice.
But A+=1 simply means value of A is to incremented by 1.
As memory address has to be identified once, += leads to faster operation.
```

Q2. What is the smallest no of statements you'd have to write in most programming languages to replacethe Python expr a, b = a + b, a ?

In [ ]:

```
Ans: Minimum number of lines required to write above code in languages other
Python will be 4, two for assigning initial values for variables a and b,and
two for reassignment i.e. a=a+b and b=a.
```

Q3. In Python, what is the most effective way to set a list of 100 integers to 0?

In [ ]:

```
Ans: The Most effective way to set a list of 100 integers to 0 in python is
by using repition operator(*) or by using list comprehension.
```

In [2]:

```
# Method 1
list_zero=[0]*100
print(list_zero)

# Method 2
zero_list = [0 for x in range (100)]
print(zero_list)
```

```
[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0]
[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0]
```

Q4. What is the most effective way to initialise a list of 99 integers that repeats the sequence 1, 2, 3? S Ifnecessary, show step-by-step instructions on how to accomplish this.

In [3]:

```
my_list = [1,2,3]*33
print(my_list)
```

```
[1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1,
2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3,
1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2,
3, 1, 2, 3, 1, 2, 3, 1, 2, 3, 1, 2, 3]
```

Q5. If you're using IDLE to run a Python application, explain how to print a multidimensional list asefficiently?

In [4]:

```
my_list =[[1,1],[2,2],[3,3],[4,4],[5,5]] # 2 dimensional List
for x in range(len(my_list)):
    for y in range(len(my_list[x])):
        print(my_list[x][y],end=" ")
```

```
1 1 2 2 3 3 4 4 5 5
```

Q6. Is it possible to use list comprehension with a string? If so, how can you go about doing it?

In [ ]:

```
=>List comprehension with string is possible.
```

In [5]:

```
my_list = [ele for ele in'iNeuron']
print(my_list)
```

```
['i', 'N', 'e', 'u', 'r', 'o', 'n']
```

Q7. From the command line, how do you get support with a user-written Python programme? Is this possiblefrom inside IDLE?

In [ ]:

```
Ans: Get support with a user-written Python Programme:Start a command prompt
(Windows) or terminal window(Linux/Mac).
If the current working directory is the same as the location in which you saved
the file, you can simply specify the filename as a command-line argument to the
Python interpreter.
Get support with a User-written Python Program from IDLE: You can also create
script files and run them in IDLE.
From the Shell window menu, select File → New File. That should open an additional
editing window.
Type in the code to be executed. From the menu in that window, select File → Save
or File → Save As… and save the file to disk.Then select Run → Run Module.The
output should appear back in the interpreter.
```

Q8. Functions are said to be "first-class objects" in Python but not in most other languages, such as C++ orJava. What can you do in Python with a function (callable object) that you can't do in C or C++?

In [ ]:

```
Ans: The tasks which can be performed with the functions in python are:


A function is an instance of the Object type.
You can store the function in a variable.
You can pass the function as a parameter to another function.
You can return the function from a function.
You can store them in data structures such as hash tables,lists,
```

Q9. How do you distinguish between a wrapper, a wrapped feature, and a decorator?

In [ ]:

```
Ans: Wrappers Around the functions are known as Decrators.
```

Q10. If a function is a generator function, what does it return?

In [ ]:

```
Ans: Generator functions are a special kind of function that return a lazy
iterator.
These are objects that you can loop over like a list.However, unlike lists,
lazy iterators do not store their contents in memory.
```

Q11. What is the one improvement that must be made to a function in order for it to become a generatorfunction in the Python language?

In [ ]:

```
Ans: Generator is a written as normal function but uses yield keyword to return
values instead of return keyword.
```

Q12. Identify at least one benefit of generators.

In [ ]:

```
Ans: return statement sends a specified value back to its caller whereas yield
statement can produce a sequence of values.
We should use generator when we want to iterate over a sequence, but don't want
to store the entire sequence in memory.
```