

Multiple Choice Questions

1. A local variable in Python is a variable that is,
✓ Defined inside every function
a. Local to the given program
b. Accessible from within the function
c. All of these
2. Which of the following statements are the advantages of using functions?
a. Reduce duplication of code
b. Clarity of code
c. Reuse of code
✓ All of these
3. The keyword that is used to define the block of statements in function?
a. function
b. func
✓ def
c. pi
4. The characteristics of docstrings are
a. suitable way of using documentation
b. Function should have a docstring
c. Can be accessed by `__doc__`
✓ All of these
5. The two types of functions used in Python are
✓ Built-in and user-defined
a. Custom function and user function
b. User function and system call
c. System function
6. _____ refers to built-in mathematical function.
✓ sqrt
a. rhombus
b. add
c. sub
7. The variable defined outside the function is referred as
a. static
✓ global
b. automatic
c. register
8. Functions without a return statement do return a value and it is
a. int

- b. null
 - ✓ None
 - c. error
9. The data type of the elements in sys.argv?
- a. set
 - b. list
 - c. tuple
 - ✓ string
10. The length of sys.argv is?
- a. Total number of arguments excluding the filename
 - ✓ Total number of arguments including the filename
 - b. Only filename
 - c. Total number of arguments including Python Command
11. The syntax of keyword arguments specified in the function header?
- a. * followed by an identifier
 - b. _ followed by an identifier
 - ✓ ** followed by an identifier
 - c. __ followed by an identifier
12. The number of arguments that can be passed to a function is
- a. 0
 - b. 1
 - c. 0 or more
 - ✓ 1 or more
13. The library that is used to create, manipulate, format and convert dates, times and timestamps in Python is
- ✓ Arrow
 - a. Pandas
 - b. Scipy
 - c. NumPy
14. The command line arguments is stored in
- a. os.argv
 - ✓ sys.argv
 - b. argv
 - c. None
15. The command that is used to install a third-party module in Python is
- ✓ pip
 - a. pipe
 - b. install_module
 - c. pypy

16. Judge the output of the following code.

```
import math  
math.sqrt(36)
```

- a. Error
- b. -6
- c. 6
- ✓ 6.0

17. The function divmod (10,20) is evaluated as

- a. (10%20,10//20)
- ✓ (10//20,10%20)
- b. (10//20,10*20)
- c. (10/20,10%20)

18. Predict the output of the following code?

```
def tweet ():
```

```
    print ("Python Programming!")
```

```
tweet ()
```

- ✓ Python Programming!
- a. Indentation Error
- b. Syntax Error
- c. Name Error

19. The output of the following code is

```
def display message(message, times = 1):  
    print (message * times)  
display massage ("Data")  
display message ("Science", 5)
```

- ✓ Data Science Science Science Science Science
- a. Data Science 5
- b. DataDataDataDataDataScience
- c. DataDataDataDataDataData

20. Guess the output of the following code

```
def quad(x):  
    return x * x * x *  
x = quad(3)  
print(x)
```

- a. 27
- b. 9

- c. 3
- ✓ 81

21. The output of the following code is

```
def add(*args):
    x = 0
    for i in args:
        x += i
    return x

    print(add(1,2,3))
    print(add(1, 2, 3, 4, 5))
```

- a. 16 15
- ✓ 6 15
- b. 1 2 3
- c. 1 2 3 45

22. Gauge the output of the following code.

```
def foo():
    return total + 1
    total = 0
    print(foo())
```

- ✓ 1
- a. 0
- b. 11
- c. 00

23. The default arguments specified in the function header is an

- ✓ Identifier followed by an = and the default value
- a. Identifier followed by the default value within back-ticks
- b. Identifier followed by the default value within []
- c. Identifier followed by #.

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Define Function. What are the advantages of using a Function.

مزايا استخدام المكتوبات المعرفة

- التكرار

، التدوير

، التحسين

3) Explain with syntax how to create a user-defined function and how to call the user-defined function from the main function.

```
def sh(name):  
    print("Hello", name)  
sh("Hamayoon")
```

4) Explain the built-in function with example.

onciasr (print) is a built-in function in Python

print("Hello") → Hello

input()

type()

5) Differentiate between local and global variables with suitable examples.

جواب:-

local variables are those which are defined inside a function and can only be accessed within that function.
global variables are those which are defined outside a function and can be accessed anywhere in the program.

$x = 5 \rightarrow \text{global}$

def shc():

$x = 10 \rightarrow \text{local}$

 print(x)

6) Explain the advantages of args and kwargs with example.

Arguments (أمثلة) (positionals) (args), -> جملة
(positional arguments)

Arguments (أمثلة) (kwargs)

(Keyword arguments)

```
def cheese_shop(kind, *args, **kwargs):
```

```
    print(f" Do you have any {kind} ? ")
```

```
    print(f" Sorry, we're all out of {kind} ")
```

```
    for arg in args:
```

```
        print(arg)
```

```
    print(*args)
```

```
    for kw in kwargs:
```

```
        print(kw, ":", kwargs[kw])
```

7. Demonstrate how function return multiple values with an example.

calculate(a,b):

$$\text{sum} = a+b$$

$$\text{diff} = a-b$$

return sum, diff

result1, result2 = calculate(10, 5)

Print("10.", result1)

Print("50.", result2)

8. Explain the utility of docstrings.

سچون دیکشنری میکنیم که این دو دستورات را داشتیم.

سچون دو دستورات داشتیم، دو تابع پیش بگذاریم.

✓ write a program using functions to perform the arithmetic operation.

① def add(a,b):

 return a+b

② def subtract(a,b):

 return a-b

③ def multiply(a,b):

 return a*b

④ def divide(a,b):

 return a/b

① print("10.", add(10, 5))

② print("50.", subtract(10, 5))

③ print("50.", multiply(10, 5))

④ print("0.5.", divide(10, 5))

tuple

10) Write a program to find the largest of three numbers using functions.

```
def largest(a,b,c):
    return Max(a,b,c)
print("max".(10,25,15))
Out Put = 25
```

11) write a python program using functions to find the value of nPr and nCr .

```
import math
def nPr(n,r):
    return
math.factorial(n)
math.factorial(n-r)      print("nPr",nPr(5,2))
def nCr(n,r):           => SP1=20
    return
math.factorial(n)
math.factorial(r)        print("nCr",nCr(5,2))
math.factorial(n-r)
```

12) write a python function named area that finds the area of a pentagon.

```
def pentagon-area(a,r)
    return(S1)*a*r
Print("Area", pentagon-area(6+1))
```

١٣، write a program using Functions to display Pascal's triangle.

```
def pascal-Triangle(n):
    for i in range(n):
        num = 1
        for j in range(i+1):
            print(num, end=" ")
            num = num * (i-j) // (i+j)
        print()
```

Pascal Triangle (5)