

Python Programming Quiz 2

Time: 30 minutes

Marks: 2×25=50

Batch: PDS (__)

ID Number:

Name:

Section A. Multiple Choice Questions

1. What will be the output of the following code snippet?

```
print(2**3 + (5 + 6)**(1 + 1))
```

- a) 8 b) 121
- c) 129 d) None of the above

2. What will be the output of the following code snippet?

```
a = [1, 2, 3]  
a = tuple(a)  
a[0] = 2  
print(a)
```

- a) [2,2,3] b) (2,2,3)
- c) (1,2,3) d) Error

3. How is a code block indicated in Python?

- a) Brackets b) Indentation
- c) Key d) None of the above

4. Which of the following is the proper syntax to check if a particular element is present in a list?

- a) if ele in list b) if not ele not in list
- c) Both a&b d) None of the above

5. What will be the output of the following code snippet?

```
numbers = (4, 7, 19, 2, 89, 45, 72, 22)  
sorted_numbers = sorted(numbers)  
ans= [x for x in sorted_numbers if x % 2 != 0]  
print(ans)
```

- a) [7,19,45,89] b) [2,4,22,72]
- c) [4,7,19,2,89,45,72,22] d) [2,4,7,19,22,45,72,89]

6. What will be the output of the following code?

```
a = [1, 2]
```

```
print(a * 3)
```

- a) Error
- b) [1,2,1,2,1,2]
- c) [3,6]
- d) [1,2]

7. Which of the following is a valid variable name in Python?

- a) def
- b) if_variable
- c) return
- d) class_name

8. What will be the output of the following code snippet?

```
example = ["Sunday", "Monday", "Tuesday", "Wednesday"];
```

```
print(example[-3:-1])
```

- a) ['Monday', 'Tuesday']
- b) ['Sunday', 'Monday']
- c) ['Tuesday', 'Wednesday']
- d) ['Wednesday', 'Monday']

9. Which of the following methods can be used to find the number of items from a list?

- a) count()
- b) size()
- c) len()
- d) All of the above

10. What will be the output of the following code snippet?

```
def solve(a, b):
```

```
    return b if a == 0 else solve(b % a, a)
```

```
print(solve(20, 50))
```

- a) 10
- b) 20
- c) 50
- d) 1

11. What is the purpose of the pass statement in Python?

- a) To stop the loop
- b) To continue to the next iteration
- c) To do nothing and move to the next line of code
- d) To return a value

12. What happens when '2' == 2 is executed?

- a) True
- b) False
- c) ValueError
- d) TypeError

13. What will be the output of the following code?

```
for i in range(10, 0, -2):  
    print(i, end=", ")
```

- a) 10, 8, 6, 4, 2, 0,
- b) 10, 8, 6, 4, 2,
- c) 0, 2, 4, 6, 8, 10,
- d) No output

14. What does the break statement do in a loop?

- a) Terminates the loop
- b) Skips to the next iteration
- c) Ignores the condition
- d) Restarts the loop

15. What will be the output of this program??

```
print(True ** False / True)
```

- a) True ** False / True
- b) 1
- c) 1.0
- d) None of the above

16. What is the output of print (r"\njava\npoint")?

- a) java
point
- b) java point
- c) \njava\npoint
- d) Print the letter r and then java and then point

17. Which function is used to get input from the user in Python?

- a) input()
- b) input[]
- c) get()
- d) scanf()

18. What will be the output of this function?

```
all([2, 4, 0, 6])
```

- a) False
- b) True
- c) 0
- d) Invalid code

19. Which of the following is a valid Python data type?

- a) str
- b) int
- c) float
- d) complex

20. How do you check the data type of a variable in Python?

- a) typeOf(var)
- b) checkType(var)
- c) dataType(var)
- d) type(var)

21. What does the %timeit magic command do in IPython?

- a) Measures the execution time of the code
- b) Compiles the code
- c) Profiles memory usage
- d) Returns the version of Python

22. Which magic command is used to run code with the line-by-line memory usage in IPython?

- a) %memit
- b) %prun
- c) %mprun
- d) %lprun

23. How do you load and execute an external Python script using an IPython magic command?

- a) %load script.py
- b) %exec script.py
- c) %run script.py
- d) %source script.py

24. What is the output of the following code?

```
import numpy as np
a = np.array([1, 2, 3, 4])
print(a.shape)
```

- a) (4,)
- b) [4]
- c) (1,4)
- d) [1,4]

25. What will be the output of the following code?

```
import numpy as np
a = np.array([1, 2, 3, 4])
print(a[-3:-1])
```

- a) [1, 2]
- b) [2, 3]
- c) [3, 4]
- d) [2,3, 4]

Section B. Short Questions (5)

Time: 10 minutes

Marks: 10

1. What will be the output of this function?

Study the following function:
`round(4.576)`

Ans.

2. What will be the output of this code?

`any([5>8, 6>3, 3>1])`

Ans.

3. What does the following NumPy function do?

`np.linspace(0, 10, 5)`

Ans.

4. What function would you use to create a NumPy array of zeros with shape (3, 3)?

Ans.

5. Which method would you use to add a new key-value pair 'age': 30 to a dictionary d?

Ans.

Python Programming Quiz 1

Time: 30 minutes

Marks: 2×25=50

Batch: PDS ()

ID Number:

Name:

Section A. Multiple Choice Questions

1. Which of the following is the correct way to create a list in Python?

- a) list = [1, 2, 3]
- b) list = (1, 2, 3)
- c) list = {1, 2, 3}
- d) list = "1, 2, 3"

2. What is the output of print(2 ** 3) in Python?

- a) 6
- b) 8
- c) 9
- d) 10

3. Which of the following data types is immutable in Python?

- a) List
- b) Dictionary
- c) Set
- d) Tuple

4. What does the len() function do?

- a) Finds the length of a string
- b) Finds the length of a list
- c) Finds the length of a tuple
- d) All

5. Which of the following is used to define a function in Python?

- a) function
- b) def
- c) define
- d) lambda

6. What will be the output of the following code?

```
x = [1, 2, 3]
x.append([4, 5])
print(len(x))
```

- a) 3
- b) 4
- c) 5
- d) 6

7. Which of the following is a valid variable name in Python?

- a) 1_variable
- b) variable_1
- c) variable-1
- d) variable.1

8. What is the correct syntax to output "Hello World" in Python?

- a) echo("Hello World")
- b) p("Hello World")
- c) print("Hello World")
- d) echo 'Hello World'

9. Which of the following methods can be used to remove an item from a list?

- a) remove()
- b) pop()
- c) del
- d) All of the above

10. What is the output of `print(5 // 2)`?

- a) 2.5
- b) 2
- c) 3
- d) 1

11. What is the purpose of the `pass` statement in Python?

- a) To stop the loop
- b) To continue to the next iteration
- c) To do nothing and move to the next line of code
- d) To return a value

12. Which keyword is used for conditional branching in Python?

- a) switch
- b) case
- c) if
- d) when

13. What will be the output of the following code?

```
for i in range(0, -5, -1):  
    print(i, end=" ")
```

- a) 0, -1, -2, -3, -4,
- b) -1, -2, -3, -4, -5,
- c) -1, -2, -3, -4,
- d) No output

14. What does the `break` statement do in a loop?

- a) Terminates the loop
- b) Skips to the next iteration
- c) Ignores the condition
- d) Restarts the loop

15. How do you start a comment in Python?

- a) //
- b) /*
- c) #
- d) --

16. What is the output of `print(bool(0))`?

- a) True
- b) False
- c) 0
- d) None

17. Which function is used to get input from the user in Python?

- a) `input()`
- b) `raw_input()`
- c) `get()`
- d) `scanf()`

18. What is the output of `print(2 * 3 ** 2)`?
- a) 18
 - b) 12
 - c) 36
 - d) 9
19. Which of the following is not a valid Python data type?
- a) str
 - b) int
 - c) float
 - d) real
20. How do you check the data type of a variable in Python?
- a) `typeOf(var)`
 - b) `checkType(var)`
 - c) `dataType(var)`
 - d) `type(var)`
21. What does the `%timeit` magic command do in IPython?
- a) Measures the execution time of the code
 - b) Compiles the code
 - c) Profiles memory usage
 - d) Returns the version of Python
22. Which magic command is used to run code with the line-by-line profiler in IPython?
- a) `%memit`
 - b) `%prun`
 - c) `%mprun`
 - d) `%lprun`
23. Which magic command is used to measure the memory usage of a Python object in IPython?
- a) `%memit`
 - b) `%who`
 - c) `%memory`
 - d) `%info`
24. What is the correct way to create a NumPy array from a list `[1, 2, 3, 4]`?
- a) `np.array([1, 2, 3, 4])`
 - b) `np.create([1, 2, 3, 4])`
 - c) `np.make([1, 2, 3, 4])`
 - d) `np.build([1, 2, 3, 4])`
25. What will be the output of the following code?
- ```
import numpy as np
a = np.array([1, 2, 3, 4])
print(a[1:3])
```
- a) `[1, 2]`
  - b) `[2, 3]`
  - c) `[2, 3, 4]`
  - d) `[3, 4]`



**Digital Skills for Students Training Program**  
**Institute of Information and Communication Technology (IICT)**

**Class Test**

**Full Mark: 30**

**Time: 1 Hour**

1. Answer any **Four** of the questions.

4×2.5 = 10

- a) Explain the difference between mutable and immutable data types in Python with examples.
- b) What is the use of the break statement?
- c) What is the result of this expression?

103 // (5\*2)

- d) How do you access the first element of a list named 'my\_list'?
- e) How do you print the summation of all the numbers from 1 to 99?
- f) What does the %timeit magic command do in IPython?

2. Answer any **Two** of the questions

2×4= 8

- a) Write a Python program that calculates and prints the first 20 Fibonacci numbers.
- b) Create a dictionary with at least 5 key-value pairs where the keys are names of students and the values are their grades.

i.e. ({ "Alice": 85, "Bob": 90, "Charlie": 78, "Diana": 92, "Eve": 88}).

- c) Create a Python program that counts the number of occurrences of each character in a given string and prints the results as a dictionary.
- d) Write a python program to calculate the sum of digits of a given number.

3. Answer any **Two** of the questions

6×2 = 12

- a) What is the output of the following code?

**n = 6**

**divisors = [i for i in range(1, n + 1) if n % i == 0]**

**squared\_divisors = [d \*\* 2 for d in divisors]**

**print(squared\_divisors)**

- b) Write a python program that reads a number from the user and determines whether it is a palindrome (a number that reads the same backward as forward). Print **True** if it is a palindrome and **False** otherwise.
- c) Write a python program to print the following pattern.

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