1. What will be the output after running the following code?

```
def func1() :
    print("func1")
    def func2():
        print("func3")
        def func3():
            print("func3")
        func3()
    func2()
func1()
```

A.
func1
func3
func3

B.
func3
func3
func1

C.
func1
func2
func3

D.
func3
func2
func1

2. What will be the output after running the following code?

```
nums = [1, 2, 3, 4, 5, 6, 7]
print(nums[::-5])
```

A. [7, 2]
B. [7, 6, 5, 4, 3, 2]
C. [7, 3]
D. SyntaxError

3. What will be the output after running the following code?

```
for i in range(10,12,2):
  if i % 2 != 1:
    print("No")
  else:
    print("Yes")
```

A. Yes
B. True
C. error
D. No

4. What will be the output when the following program is run?

```
tupl = 5,4,"Earth"
print(list(tupl))
```

A. 5,4,'Earth'
B. [5,4]
C. [5, 4, 'Earth']
D. {5,4,'Earth'}

5. What is the output of the following code:

```
def fun(*val):
    print(type(val))

lst=[1,2,3,4,5]
number = 400
fun(lst,number)
```

A. <class 'tuple'>
B. <class 'list'><class 'int'>
C. <class 'list'>
D. error

6. What will the output be after executing this code?

```
x = []
y = ""
z = -1
```

print(bool(x),bool(y),bool(z))

A. True True False
B. False False True
C. False True False
D. False False False

7. What is the output of the following print statement ?
p = 10
q = 10
print(p is q)

A. False
B. True
C. SyntaxError
D. 10

8. What is the output when the following code is executed:
vowels = ["a", "e", "i", "o", "u"]
all = list(range(-2)) + vowels
print(all)

A. ['o', 'u']
B. ['a', 'e', 'i']
C. ['a', 'e', 'i', 'o', 'u', 'a', 'e', 'i', 'o', 'u']
D. ['a', 'e', 'i', 'o', 'u']

9. What will be the output after running the following code?
val = ['Python', 'Tuple']
val_t = tuple(val)
val_t.pop()
print(val_t)

A. AttributeError
B. ['Tuple']
C. []
D. ['Python']

10. What do we need to change in order to fix the following code:
```
str = "Peter "Piper" Picked A Peck Of Picked "Pepper""
print(str)
```

A. error as the variable name str is invalid
B. None of the above
C. Wrap the whole sentence in a single quotes and leave Piper and Pepper in double quotes as is
D. Escape the quotes around Piper and Pepper words using the \ character.

The two ways to fix the code are:
```
str = "Peter \"Piper\" Picked A Peck Of Picked \"Pepper\""
str = 'Peter "Piper" Picked A Peck Of Picked "Pepper"'
```

11. What would the following program print to the console when user inputs 3 and 'Python' to be stored in the a and b variables respectively?
```
a = int(input())
b = input()
print(a*b)
```

A. "Python Python Python"
B. Python
C. PythonPythonPython
D. SyntaxError

12. What do you expect the following code to produce?
```
greeting = "Good Morning"
for ch in greeting:
  if ch == 'o':
    break
  print(ch)
else:
  print("Good Night")
```

A. G

B. Good Night
C. Good Morning
D. Go

13. What will be the output after running the following code?

```
tuple_one = (1, 2, 3)
tuple_two = ("Apples", "Bananas")
tuple_three = (tuple_one + tuple_two)
print(tuple_three)
```

A. (1, 2, 3, 'Apples', 'Bananas')
B. SyntaxError
C. (1, 2, 3)('Apples', 'Bananas')
D. ('Apples', 'Bananas', 1, 2, 3)

14. Given x and y are two binary numbers, what would the AND (&) operator on these number yield?
Note, the bin() function will take a decimal number as an argument and produce a binary number.

```
x = 0b101
y = 0b110
print(bin(x & y))
```

A. 0b110
B. 0b101
C. 0b001
D. 0b100

15. What do you expect the following print statement to produce ?

```
str = "Betty Bought A Bit Of Bitter Butter"
print('Butter' in str)
```

A. False
B. Butter
C. "Butter"
D. True

16. What will be the output after running the following code?

```
if not(True):
  print("hi")
else:
  print("bye")
```

A. False
B. error
C. hi
D. bye

17. What will the output be after executing this code?

```
h = {'blue': 1, 'red': 2, 'yellow': 3}
while len(h) > 2:
  print(h)
```

A. error
B. The program will infinitely print {'blue' : 1,'red' : 2,'yellow': 3} .
C. {'blue' : 1,'red' : 2,'yellow': 3}
D. Nothing is printed

18. What do you expect the following code to print out:

```
print(5 % 4 ** 2 // 2)
```

A. 1
B. 2
C. 5
D. error

19. What will be the output when the following program is run?

```
print("Hello","World", end=" ")
print("Python")
```

A. Hello World Python
B. Hello World
C. HelloWorld Python
D. HelloWorldPython

20. What will be the output after running the following code?

```
a = 1
b = 1
while a < 2:
  while b < 2:
    print(a, ":", b)
    b += 1
    a += 1
```

A. 1 : 1
B. 1 : 2
C. 2 : 2
D. 2 : 1

21. What will be the output after running the following code?

```
def func(x,y):
    return x+y
print(func(9))
```

A. 9
B. 9+y
C. 0
D. error

22. What will the output be after executing the following code?

```
fruits = ["apples","bananas"]
for i in range(1,2):
  for fruit in fruits:
    print(i, fruit)
```

A.
apples
bananas

B. error

C.
1 apples
1 bananas

D.
1 apples
2 bananas

23. What is the output of the following print statement:
greeting = "Knowledge Is Power"
print(greeting[::])

A. Knowledge Is Power
B. KnowledgeIsPower
C. error
D. "Knowledge Is Power"

24. What will be the output after running the following code?
languages = {'lang1': {1: 'Python'},
'lang2': {2: 'Java'}}
print (languages['lang1'][1])

A. error
B. Java
C. Python
D. 1

25. What will the output be when the following code is executed?
def func(val1 = 2, val2 = 4):
print(val1 + val2)
func(val2 = 3)

A. Invalid input
B. 5
C. 6
D. 7

26. What will be the output after running the following code?
numbers = dict([('first', 3),('second', 1),('third', 2)])
print(numbers.pop('second'))

A. 1

B. [('first', 3),('third', 2)]
C. [('first', 3),(1),('third', 2)]
D. second

27. What will the output be after running the following code snippet?

```
a = 'Python'
i = 0
while i < len(a):
    i += 1
print(i)
```

A. 0,1,2,3,4,5
B. 6
C. 1,2,3,4,5,6
D. 5

28. What is the output of the following code:

```
def func(x):
    x = [1,2,3]
    return x

x = [4,5,6,7]
y = func(x)
print(x, y)
```

A. [1, 2, 3][1, 2, 3]
B. error
C. [4, 5, 6, 7] [1, 2, 3]
D. [1, 2, 3][4, 5, 6, 7]

29. What is the output of the following code:

```
def area_square(side):
    return side ** 2

print(area_square(10))
```

A. 40
B. 100