MCQ on Introduction to python

1. Which of the following is the correct extension of the Python file?
   a) .python
   b) .pl
   c) .py
   d) .p

   Answer: c) .py

2. What will be the value of the following Python expression $4 + 3$ % 5
   a) 7
   b) 2
   c) 4
   d) 1

   Answer: a) 7

3. What is the order of precedence in python?
   a) Exponential, Parentheses, Multiplication, Division, Addition, Subtraction
   b) Exponential, Parentheses, Division, Multiplication, Addition, Subtraction
   c) Parentheses, Exponential, Multiplication, Addition, Division, Subtraction
   d) Parentheses, Exponential, Multiplication, Division, Addition, Subtraction

   Answer: d) Parentheses, Exponential, Multiplication, Division, Addition, Subtraction

4. What are the values of the following Python expressions?
   2**(3**2)
   (2**3)**2
   2**3**2

   a) 512, 64, 512
   b) 512, 512, 512
   c) 64, 512, 64
   d) 64, 64, 64

   Answer: a) 512, 64, 512

5. Which of the following functions is a built-in function in python?
   a) factorial()
   b) print()
   c) seed()
   d) sqrt()

   Answer: b) print()

6. Which of the following is false about Identifiers
   a) Identifiers can be combination of uppercase and lowercase letters, digits or an underscore (_).
   b) An Identifier can start with digit.
   c) We can't use special symbols like !,#,@,%,$ etc in Identifier.
   d) Identifier can be of any length.

Answer: b) An Identifier can start with digit

7. Which of the following is Identity operator
   a) in
   b) not in
   c) not
   d) is

Answer: d) is

8. What does 3 ^ 4 evaluate to?
   a) 81
   b) 12
   c) 0.75
   d) 7

Answer: d) 7

9. Which is the correct operator for power(x^y)?
   a) x^y
   b) x**y
   c) x^^y
   d) x*y

Answer: b) xy**

10. Which of the following operators has its associativity from right to left?
    a) +
    b) //
    c) %
    d) **

Answer: d) *

11. What will be the output of X&Y if x=15 and y=12
    a) b1101
    b) 0b1101
    c) 12
    d) 1101

Answer: c) 12

12. Which of the following represents the bitwise XOR operator?
    a) &
    b) ^
    c) |
    d) !
Answer: b) ^

13. Which of the following is invalid?
    a) _a = 1
    b) __a = 1
    c) __str__ = 1
    d) str# = 1
Answer: d) str# = 1

14. What is a variable in Python?
    a) A reserved word
    b) A data type
    c) A location in memory to store data
    d) A function
Answer: A location in memory to store data

15. Which of the following is not a valid data type in Python?
    a) int
    b) float
    c) char
    d) str
Answer: c) char

1. Which keyword is used for function?
   A) Fun
   B) Define
   C) def
   D) Function

   Ans: C

2. What will be the output of the following Python code?
```
def printMax(a, b):
  if a > b:
    print(a, 'is maximum')
  elif a == b:
    print(a, 'is equal to', b)
  else:
    print(b, 'is maximum')
printMax(3, 4)
```
   A) 3
   B) 4
   C) 4 is maximum
   D) None of the mentioned

   Ans: C

3. What is the purpose of the return statement in a function?
   A) To stop the execution of the function
   B) To print a value to the console
   C) To return a value to the caller
   D) To define a recursive function

   Ans: C

4. How is a function declared in Python?
   A) def function function_name():
   B) def function_name():
   C) declare function function_name():
   D) declare function_name():

   Ans: B

5. Which one of the following is the correct way of calling a function?
   A) function_name()
   B) call function_name()
   C) Cret function_name()
   D) function function_name()

   Ans: A

6. _____ are the arguments passed to a function in correct positional order.
   A) Required arguments

B) Keyword arguments
C) Default arguments
D) Variable-length arguments

Ans: A

7. What is a function in Python?
   A) A block of code that only runs when it is called
   B) A variable used to store data
   C) A way to print output to the console
   D) An error message

   Ans: A

8. What will be the output of the following code?
   ```
   def check(number):
       if number % 2 == 0:
         return "Even"
       else:
         return "Odd"
     print(check(3))
   ```
   A) Even
   B) Odd
   C) Error
   D) None

   Ans: B

9. Which one of the following is incorrect?
   A) The variables used inside function are called local variables.
   B) The local variables of a particular function can be used inside other functions, but these cannot be used in global space.
   C) The variables used outside function are called global variables.
   D) In order to change the value of global variable inside function, keyword global is used.

   Ans: B

10. What is a variable defined outside a function referred to as?
    A) A static variable
    B) A global variable
    C) A local variable
    D) An automatic variable

    Ans: B

11. What is a variable defined inside a function referred to as?
    A) A static variable
    B) A global variable
    C) A local variable
    D) An automatic variable

    Ans: C

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

```python
def add(a, b=10):
    return a + b

result = add(5)
print(result)
```
A) 5
B) 10
C) 15
D) Error

Ans: C

13. How do you create a function with no parameters in Python?
    A) def myFunction():
    B) def myFunction(None):
    C) def myFunction(0):
    D) def myFunction(empty):

Ans: A

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

```python
def sum(a, b=2):
    return a + b
print(sum(3))
```
A) 3
B) 5
C) 6
D) Error

Ans: B

15. Which of the following is a valid function name in Python?
    A) 1_function
    B) function_name
    C) function-name
    D) function.name

Ans: B

1. Which symbol is used to start a single-line comment in Python?
a) //
b) /* */
c) `
d) #
Answer: d) #

2. How do you write a multi-line comment in Python?
a) Using /* and */
b) Using // at the beginning of each line
c) Using triple quotes ("""...""" or '''...''')
d) Using # at the beginning of each line
Answer: c) Using triple quotes ("""...""" or '''...''')

3. What is the purpose of a comment in Python?
a) To execute a code block
b) To explain the code for readers
c) To store data temporarily
d) To loop through a sequence
Answer: b) To explain the code for readers

4. How many elif statements can an if-else block contain?
a) Only 1
b) Only 2
c) As many as needed
d) None
Answer: c) As many as needed

5. Which of these is NOT a valid for loop syntax in Python?
a) for i in range(5):
b) for i in [1, 2, 3]:
c) for i = 0; i < 5; i++:
d) for i in 'hello':
Answer: c) for i = 0; i < 5; i++:

6. What does range(5) produce?
a) 1, 2, 3, 4, 5
b) 0, 1, 2, 3, 4
c) 5, 4, 3, 2, 1
d) 0, 1, 2, 3, 4, 5
Answer: b) 0, 1, 2, 3, 4

7. What is the syntax for an if statement in Python?
a) if condition:
b) if condition;
c) if (condition)
d) if condition then
Answer: a) if condition:

8. What does the elif statement do in Python?
a) Executes code if the previous if condition is True
b) Executes code if the previous if condition is False
c) Executes code if the previous if and elif conditions are False
d) Creates a new loop
Answer: b) Executes code if the previous if condition is False

9. What does the range() function do in Python?
a) Creates a list of characters
b) Creates a list of numbers
c) Creates a list of strings
d) Creates a list of dictionaries
Answer: b) Creates a list of numbers

10. What will be the output of the following code?
```
for i in range(5):
if i == 3:
break
print(i)
```
a) 0 1 2 3 4
b) 0 1 2 3
c) 0 1 2
d) 0 1 2 3 4 5
Answer: c) 0 1 2

11. What will this code output?
```
x = 0
if x:
print("True")
else:
print("False")
```

a) True
b) False
c) Error
d) No output
Answer: b) False

12. What is the purpose of a loop in Python?
a) To execute a code block once
b) To stop a program
c) To execute a code block multiple times
d) To check the validity of an expression
Answer: c) To execute a code block multiple times

13. Which keyword is used to exit a loop in Python?
a) exit
b) stop
c) break
d) return
Answer: c) break

14. What does the 'continue' keyword do in a loop?
a) Pauses the loop
b) Stops the loop
c) Skips the rest of the code inside the loop for the current iteration
d) Exits the program
Answer:c) Skips the rest of the code inside the loop for the current iteration

How do you create an infinite loop in Python?
a) while True: ...
b) for i in range(infinity): ...
c) while infinity: ...
d) for i in i:...
Answer: a) while True: ...

15. Which loop is typically used when the number of iterations is known?

a) For loop
b) While loop
c) Do-while loop
d) Infinite loop
Answer: a) For loop

16. What is the syntax for a for loop in Python?
a) for item in sequence:
b) for item in range(n):
c) for index in range(len(sequence)):
d) All of the above
Answer: d) All of the above

17. What will the following code snippet print?

```
fruits = ["apple", "banana", "cherry"]
for fruit in fruits:
print(fruit)
```

a) apple,banana,cherry
b) [�apple�, �banana�, �cherry�]
c) 0 1 2
d) apple banana cherry
Answer: d) apple banana cherry

18. What is the purpose of the range() function in Python?
a) To generate a sequence of numbers
b) To iterate over items in a sequence
c) To define a function
d) To execute a block of code repeatedly until a condition is false

Answer: a) To generate a sequence of numbers

19. What will be the output of the following code?
```
for i in range(1, 6):
if i == 3:
continue
print(i)
```
a) 1 2
b) 1 2 3
c) 1 2 4 5
d) 1 2 4

Answer: c) 1 2 4 5

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

```
for i in range(3):
for j in range(3):
print(i * j, end=' ')
print()
```

a) 0 0 0
0 1 2
0 2 4

b) 0 1 2
0 2 4
0 3 6

c) 0 0 0
0 1 2
0 2 4
0 3 6

d) 0 0 0
0 1 2
0 1 2

Answer:
a) 0 0 0
0 1 2
0 2 4

1. Which of these is false about recursion?
   a) Every recursive function must have a base case
   b) Infinite recursion can occur if the base case isn't properly mentioned
   c) A recursive function makes the code easier to understand
   d) Every recursive function must have a return value

2. What happens if the base condition isn't defined in recursive programs?
   a)Program gets into an infinite loop
   b) Program runs once
   c) Program runs n number of times where n is the argument given to the function
   d) An exception is thrown.

3. Which keyword is used for function?
   a) define
   b)fun
   c)def
   d)function

4. How many keyword arguments can be passed to a function in a single function call?
   a) zero
   b) one
   c) zero or more
   d) one or more

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

```python
y = 6
z = lambda x: x * y
print z(8)
```

   a) 48
   b) 14
   c) 64
   d) None of the mentioned

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

```python
def printMax(a, b):
   if a > b:
      print(a, 'is maximum')
   elif a == b:
      print(a, 'is equal to', b)
   else:
      print(b, 'is maximum')
printMax(3, 4)
```

   a) 3
   b) 4

c) 4 is maximum

d) None of the mentioned

7. Which of the following is not an advantage of using modules?

 a) Provides a means of reuse of program code

b) Provides a means of dividing up tasks

c) Provides a means of reducing the size of the program

d) Provides a means of testing individual parts of the program

8. Which of the following is not a valid namespace?

 a) Global namespace

b) Public namespace

c) Built-in namespace

d) Local namespace

9. What will be the output of the following Python code?

```python
from math import factorial
print(math.factorial(5))
```

a) 120

b) Nothing is printed

c) Error, method factorial doesn't exist in math module

d) Error, the statement should be: print(factorial(5))

10. What is the order of namespaces in which Python looks for an identifier?

a) Python first searches the global namespace, then the local namespace and finally the built-in namespace

b) Python first searches the local namespace, then the global namespace and finally the built-in namespace

c) Python first searches the built-in namespace, then the global namespace and finally the local namespace

d) Python first searches the built-in namespace, then the local namespace and finally the global namespace

11. What is displayed on executing print(math.fabs(-3.4))?

 a) -3.4

b) 3.4

c) 3

d) -3

12. What is the value of x if x = math.factorial(0)?

a) 0
b) 1
c) error
d) none of the mentioned

13. What is returned by int(math.pow(3, 2))?

a) 6
b) 9
c) error, third argument required
d) error, too many arguments

14. What are the two main types of functions?
a) Custom function
b) Built-in function & User defined function
c) User function
d) System function

15. Where is function defined?
a) Module
b) Class
c) Another function
d) All of the mentioned

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

```python
i = 1
while True:
    if i%3 == 0:
        break
    print(i, end=" ")
    i += 1
```

a) **1 2**
b) 1 2 3
c) error

d) Infinite loop

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

```python
i = 1
while False:
    if i%2 == 0:
        break
    print(i, end= " ")
    i += 2
```

a) 1
b) 1 3 5 7 …
c) 1 2 3 4 …

d) **No Output**

3. What will be the output of the following Python code?

```python
count = 0
while count < 3:
    print("Hello")
    count += 1
else:
    print("Else block")
```

a. **Prints "Hello" three times and then prints "Else block."**
b. Prints "Hello" four times.
c. Prints "Else block" three times.
d. Raises a Syntax Error

4. What will be the output of the following Python code?

```
num = 10
while num > 0:
    if num % 2 == 0:
        print(num, end=" ")
    num -= 1
```

a. **Prints even numbers in reverse order from 10 to 1.**

b. Prints odd numbers in the range [1, 10].

c. Prints even numbers in the range [1, 10].

d. Raises a SyntaxError.

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

```
x = 1
while x < 6:
    print(x, end=" ")
    x += 1
    if x == 4:
        continue
```

a. Prints numbers in the range [1, 6] with a skip for 4.

b. **Prints numbers in the range [1, 6] without a skip.**

c. Raises a SyntaxError.

d. Enters into an infinite loop.

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

```
for i in range(6):
    if i%2==0:
        continue;
    print(i,end=" ")
```

a. 0, 2, 4, 6

b. 1, 3, 5

c. 0, 1, 2, 3, 4, 5, 6

d. 2, 4, 6

7. What will be the output of the following Python code?

```python
i=0
while(i<5):
    i +=1
    if i == 3:
        continue
    print(i, end=" ")
```

a. 1, 2,3, 4, 5

b. 1, 2, 4, 5

c. 0, 1, 2, 3, 4, 5

d. 1, 2, 3, 4

8. Which of the following is False regarding loops in Python?

a. Loops are used to perform certain tasks repeatedly.
b. While loop is used when multiple statements are to executed repeatedly until the given condition becomes False
c. While loop is used when multiple statements are to executed repeatedly until the given condition becomes True.
d. for loop can be used to iterate through the elements of lists.

9. What will be the output of following Python code?

```python
for i in range(0,2,-1):

    print("Hello")
```

a. Hello
b. Hello Hello
c. No Output
d. Error

10. Which of the following is False regarding loops in Python?

a. Loops are used to perform certain tasks repeatedly.

b. While loop is used when multiple statements are to executed repeatedly until the given condition becomes False

c. While loop is used when multiple statements are to executed repeatedly until the given condition becomes True.

d. for loop can be used to iterate through the elements of lists.

11. What will be the output of following Python code?

```python
number = 5
while number <= 5:
    if number < 5:
        number = number + 1
    print(number)
```

a. The program will loop indefinitely

b. The value of number will be printed exactly 1 time

c. The while loop will never get executed

d. The value of number will be printed exactly 5 times

12. What does the pass statement do in Python?

a. Exits a loop

b. Acts as a placeholder that does nothing

c. Skips the rest of the code in a block

d. Raises an exception

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

```python
for i in range(3):
    if i == 1:
        pass
    print(i)
```

a. 0 1 2

b. 0 2

c. 0 0 0

d. Error

14. What happens if the pass statement is omitted in a code block that should be empty?

a. The code block is ignored

b. An Indentation Error occurs
c. The program crashes
d. The interpreter replaces it with None

15. In which types of loops can the continue statement be used?

A) Only for loops
B) Only while loops
C) Both for and while loops
D) Only nested loops

Multiple-Choice Questions on File Handling in Python

1. Which of the following is used to open a file in Python?

a) openfile()

 b) open()

 c) file.open()

 d) fopen()

Answer: b) open()

2. What is the default mode in which a file is opened using the open() function in Python?

a) Write mode ('w')

 b) Read mode ('r')

 c) Append mode ('a')

 d) Binary mode ('rb')

Answer: b) Read mode ('r')

3. Which of the following file extensions represents a text file?

a) .csv

 b) .png

c) .txt

 d) .mp4

Answer: c) .txt

4. What happens if you open an existing file in write ('w') mode?

a) The file will be deleted permanently.

 b) The file's content will be overwritten.

c) The file's content will be appended.

d) The file cannot be opened in this mode.

Answer: b) The file's content will be overwritten.

5. Which mode is used to add new content to an existing file without overwriting its content?

a) 'w'

b) 'r'

c) 'a'

d) 'wb'

Answer: c) 'a'

6. How do you properly close a file in Python after performing file operations?

a) close(file)

b) file.close()

c) close.file()

d) end(file)

Answer: b) file.close()

7. What is the purpose of the csv.reader() method in Python?

a) To write data to a CSV file

b) To read data from a CSV file

c) To delete data from a CSV file

d) To rename a CSV file

Answer: b) To read data from a CSV file

8. What will happen if you try to read a file that does not exist in 'r' mode?

a) The file will be created.

 b) An error will occur.

 c) The program will continue without reading the file.

 d) None of the above.

Answer: b) An error will occur.

9. Which function is used to read a specific number of characters from a file in Python?

a) readlines()

 b) readline()

 c) read()

 d) readchar()

Answer: c) read()

10. What is the primary use of the append ('a') mode in file handling?

a) To delete the file content

 b) To write new content to the file and erase old content

 c) To add new content to the end of the file

 d) To read the file content

Answer: c) To add new content to the end of the file

11. How can you specify the path of a file to open in Python?

a) Only by using the filename

b) Using the file path in quotes

c) Using the file name without quotes

d) By importing the os module

Answer: b) Using the file path in quotes

12. In Python, which file mode allows both reading and writing of binary files?

a) 'wb'

b) 'rb'

c) 'r+b'

d) 'w+b'

Answer: c) 'r+b'

13. What does the readline() method do?

a) Reads all lines in the file

b) Reads the first line and stops

c) Reads a single line and includes the newline character

d) None of the above

Answer: c) Reads a single line and includes the newline character

14. Which of the following operations can be performed using the open() function in Python?

a) Creating a new file

b) Reading an existing file

 c) Appending data to an existing file

d) All of the above

Answer: d) All of the above

15. What will the following code do?

```
file = open('example.txt', 'w')
file.write('Hello World!\n')
file.close()
```

a) Write 'Hello World!' to a new file 'example.txt' and close it.

b) Append 'Hello World!' to the existing content of 'example.txt'.

c) Raise an error because 'example.txt' does not exist.

d) None of the above.

Answer: a) Write 'Hello World!' to a new file 'example.txt' and close it.

MCQ - Lists and Strings

1. What will be the output of the following Python statement?
   "abcd"[2:]
   a. a
   b. ab
   c. cd
   d. dc
      Ans : c

2. What will be the output of the following Python code?
       str1="helloworld"
       print(str1[::-1])
   a. dlrowolleh
   b. hello
   c. world
   d. helloworld
      Ans : a

3. input() function returns
   a. Integer value
   b. Float value
   c. String value
   d. Boolean value
      Ans: c

4. What is the requirement when using + operator with string type.
   a. One of the operands can be string
   b. One of the operands can be integer
   c. + operator does not work with string
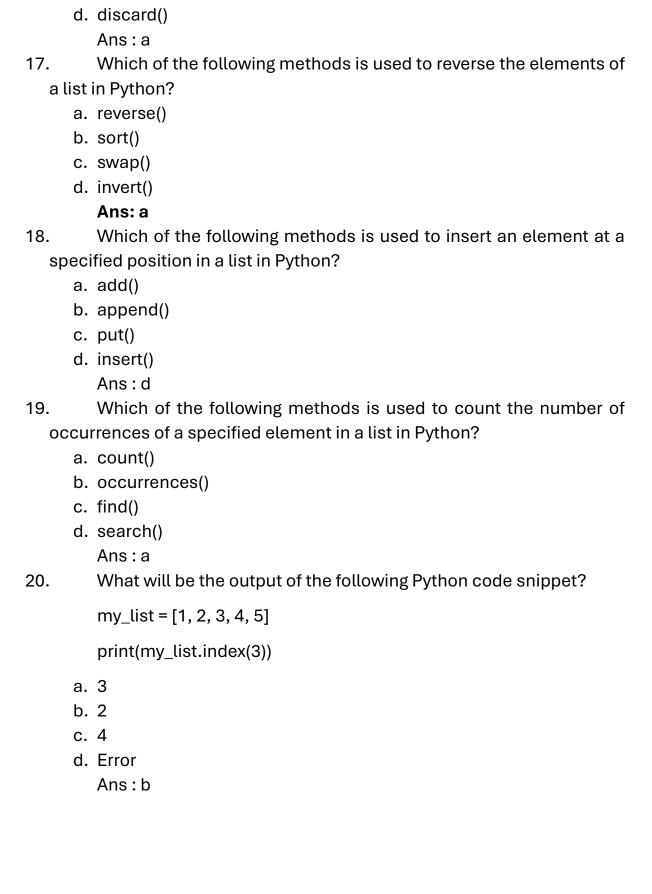   d. Both operands must be strings
      Ans : d

5. What will be the output of the "hello" +1+2+3?
   a. hello123
   b. hello
   c. Error
   d. hello6
      Ans : c

6. The format function, when applied on a string returns _____
    a. Error
    b. int
    c. bool
    d. str
        Ans : str
7. What will be the output of the following Python code?
    print("xyyzxyzxzxyy".count('yy'))
    a. 2
    b. 0
    c. error
    d. 3
        Ans :a
8. What will be the output of the following Python code?
    print("Hello {0} and {1}".format('foo', 'bin'))
    a. Hello foo and bin
    b. Hello ('foo', 'bin') and ('foo', 'bin')
    c. Error
    d. Hello {0} and {1}
        Ans : a
9. Which of the following is string replication operator
    a. //
    b. /
    c. +
    d. *
        Ans: d
10.   What will be the output of the following Python code snippet?
        print('abcdef12'.replace('cd', '12'))
    a. abcdef12
    b. ab12ef12
    c. ab12efcd
    d. ab1212efcd
        Ans : b

11.   Which of the following commands will not create a list?

a. list1 = list()
b. list1 = []
c. list1 = list([1, 2, 3])
d. list1 = list_create()
   Ans: d

12. Let list1 = [4, 2, 2, 4, 5, 2, 1, 0]. What is the output of list1[:-2]?
a. [4, 2, 2, 4, 5, 2, 1, 0]
b. [4, 2, 2, 4, 5, 2, 1]
c. [4, 2, 2, 4, 5, 2]
d. Error
   Ans: c

13. Suppose list1 is [2, 33, 222, 14, 25], What is list1[-2]?
a. Error
b. None
c. 222
d. 14
   Ans:d

14. Suppose list1 = [2, 33, 222, 14, 25]. What is list1[::-1]?
a. Empty list
b. The same list
c. Reversed list
d. Error
   Ans: c

15. Which of the following methods is used to add an element to the end of a list in Python?
a. append()
b. add()
c. insert()
d. extend()
   Ans: a

16. Which of the following methods is used to remove the first occurrence of a specified element from a list in Python?
a. remove()
b. pop()
c. delete()

d. discard()

Ans : a

17. Which of the following methods is used to reverse the elements of a list in Python?

a. reverse()
b. sort()
c. swap()
d. invert()

Ans: a

18. Which of the following methods is used to insert an element at a specified position in a list in Python?

a. add()
b. append()
c. put()
d. insert()

Ans : d

19. Which of the following methods is used to count the number of occurrences of a specified element in a list in Python?

a. count()
b. occurrences()
c. find()
d. search()

Ans : a

20. What will be the output of the following Python code snippet?

my_list = [1, 2, 3, 4, 5]

print(my_list.index(3))

a. 3
b. 2
c. 4
d. Error

Ans : b

1. Which of the following Python code creates an empty class?
   A) class A:
        return
   B) class A:
        pass
   C) class A:
   D) It is not possible to create an empty class

   Ans: B

2. What does the following code output?

```python
class People():

    def __init__(self, name):
      self.name = name

    def namePrint(self):
      print(self.name)

person1 = People("Sally")
person2 = People("Louise")
person1.namePrint()
```

   A) Sally
   B) Louise
   C) Sally Louise
   D) person1

   Ans: A

3. The _____ keyword defines a template indicating the data that will be in an object of the class and the functions that can be called on an object of the class.
   A) class
   B) object
   C) Class
   D) instance

   Ans: A

4. Which of the following is correct with respect to OOP concept in Python?
   A) Objects are real-world entities, while classes are not real.
   B) Classes are real-world entities, while objects are not real.
   C) Both objects and classes are real-world entities.
   D) Both object and classes are not real.

   Ans: A

5. How many objects and reference variables are there for the given Python code?

```
class A:

    print("Inside class")

A()

A()

obj=A()
```

A) 2 and 1
B) 3 and 3
C) 3 and 1
D) 3 and 2

Ans: C

6. In python, what is method inside class?
    A) attribute
    B) object
    C) argument
    D) function

    Ans: D

7. Which of the following is the correct way to define a class in Python?
    A) class MyClass {}
    B) class MyClass():
    C) class MyClass:
    D) MyClass class()

    Ans: C

8. How do you create an object in Python?
    A)   MyClass object = new MyClass()
    B) object = MyClass()
    C) MyClass = object()
    D) new MyClass()

    Ans: B

9. What is the first argument passed to any class method in Python?
    A) cls
    B) self
    C) this
    D) method

    Ans: B

10. Which of the following is NOT a characteristic of an object in Python?
    A)   It has a state (attributes)
    B) It has behavior (methods)
    C) It is immutable

D) It is an instance of a class

Ans: C

11. What is the term used to describe the process of creating an object from a class?
    A) Inheritance
    B) Polymorphism
    C) Instantiation
    D) Abstraction

    Ans: C

12. What is the purpose of the __init__ method in a class?
    A) It is used to define the class's destructor.
    B) It is used to define the class's methods.
    C) It is a constructor used to initialize the object's attributes.
    D) It is used to define static methods

    Ans: C

13. What is the meaning of self in a class method?
    A) It refers to the class itself.
    B) It refers to the instance of the class (the object)
    C) It is a keyword used for inheritance.
    D) It is a keyword used for polymorphism.

    Ans: B

14. What is the difference between a class attribute and an instance attribute?
    A) Class attributes are accessible only within the class, while instance attributes are accessible from anywhere.
    B) Class attributes are shared among all instances of the class, while instance attributes are unique to each instance.
    C) Class attributes are defined using self, while instance attributes are defined without self.
    D) Class attributes can be modified, while instance attributes are read-only.

    Ans: B

15. How do you access a class attribute?
    A) Only through an instance of the class.
    B) Only through the class name.
    C) Both through the class name and through an instance of the class.
    D) Only within the __init__ method.

    Ans: C

MCQ on Introduction to Exceptions and Errors

1. What is raised when a Python program encounters an error during execution?
   a) Error
   b) Exception
   c) Fault
   d) Bug
   Answer: b

2. Which of the following is NOT a standard Python exception?
   a) KeyError
   b) ValueException
   c) IndexError
   d) TypeError
   Answer: b

3. Which Python keyword is used to raise an exception manually?
   a) throw
   b) raise
   c) exception
   d) trigger
   Answer: b

4. Rewrite the following code in python after removing all syntax error(s). Underline each correction done in the code:

```
for i in range(10):
    if(i==5)
        break:
    else:
        print(i)
    continue
```

5. Which of the following is not a built-in exception in Python?
   a) ZeroDivisionError
   b) FileNotFoundException
   c) ImportError
   d) ValueError
   Answer: b

6. Which exception is raised when you try to use a variable that hasn't been defined?
  a) UndefinedVariableError
  b) ReferenceError
  c) ValueError
  d) NameError
  Answer: d

7. What will the output of the following code be?
  try:
      x = 1/0
  except ZeroDivisionError:
      x = 0
  print(x)

  a) 1
  b) 0
  c) An exception will be raised
  d) 0.5
  Answer: b

8. Which of the following is the base class for all built-in exceptions?
  a) BaseError
  b) Error
  c) BaseException
  d) Exception
  Answer: c

9. What is an exception in Python?
  a) A syntax error
  b) A runtime error
  c) A logical error
  d) A compile-time error
  Answer: b

10. By default, what a program does when it detects an exception?
  a) Continue running
  b) Results in the termination of the program
  c) Calls other functions of the program
  d) Removes the exception and tells the programmer about an exception
  Answer: b

11. Which keyword is used to throw an exception?
  a) try
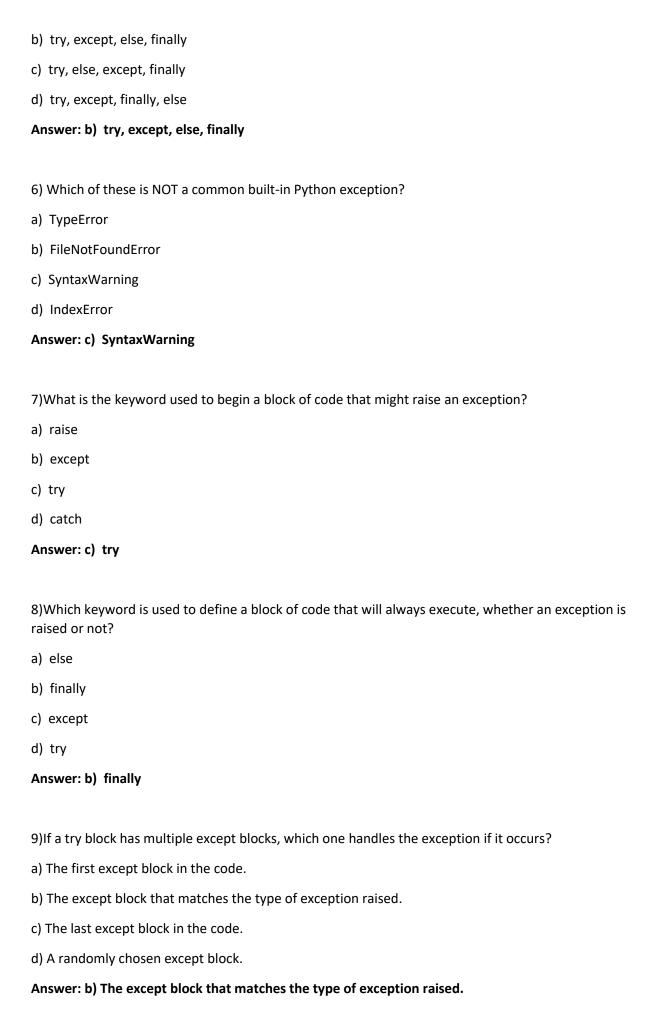
b) throw
c) throws
d) except
Answer: b

MCQs--Handling exceptions using try-except else-finally.

1)What is the primary purpose of the try block in exception handling?

a) To define the code that might raise an exception.

b) To handle the exception if it occurs.

c) To execute code regardless of whether an exception occurs.

d) To specify alternative code to run if no exception occurs.

Answer: a) To define the code that might raise an exception.

2)Which block is executed if no exception occurs within the try block?

a) except

b) finally

c) else

d) None of the above

Answer: c) else

3)What is the purpose of the except block?

a) To define the code that might raise an exception.

b) To handle a specific type of exception.

c) To execute code regardless of whether an exception occurs.

d) To specify alternative code to run if no exception occurs.

Answer: **b) To handle a specific type of exception.**

4)Which block is always executed, regardless of whether an exception is raised or caught?

a) try

b) except

c) else

d) finally

Answer: **d) finally**

5)Which of the following is the correct order of blocks in a try-except-else-finally structure (though not all are always required)?

a) try, finally, except, else

b) try, except, else, finally

c) try, else, except, finally

d) try, except, finally, else

Answer: b) try, except, else, finally

6) Which of these is NOT a common built-in Python exception?

a) TypeError

b) FileNotFoundError

c) SyntaxWarning

d) IndexError

Answer: c) SyntaxWarning

7) What is the keyword used to begin a block of code that might raise an exception?

a) raise

b) except

c) try

d) catch

Answer: c) try

8) Which keyword is used to define a block of code that will always execute, whether an exception is raised or not?

a) else

b) finally

c) except

d) try

Answer: b) finally

9) If a try block has multiple except blocks, which one handles the exception if it occurs?

a) The first except block in the code.

b) The except block that matches the type of exception raised.

c) The last except block in the code.

d) A randomly chosen except block.

Answer: b) The except block that matches the type of exception raised.

10)What happens if an exception is raised and there are no matching except blocks?

a) The program continues to run.

b) The program terminates.

c) The finally block is executed, and then the program continues.

d) The else block is executed, and then the program continues.

Answer: b) The program terminates.

11)Can you have a try block without any except blocks?

a) Yes, but only if you also have an else block.

b) Yes, but only if you also have a finally block.

c) No, you must have at least one except block.

d) No, unless you're using a context manager (with).

Answer: b) Yes, but only if you also have a finally block.

12)How do you specify the type of exception to catch in an except block?

a) Using the type keyword.

b) By writing the exception class name after the except keyword.

c) Using the instance of operator.

d) By using the catch keyword.

Answer: b) By writing the exception class name after the except keyword.

13)Which block is executed after the try block completes successfully, but before the finally block?

a) except

b) else

c) catch

d) None of the above

Answer: b) else

14)Is it possible to have multiple except blocks for different exception types within a single try block?

a) No, only one except block is allowed.

b) Yes, you can have multiple except blocks.

c) Yes, but only if you use the catch keyword.

d) No, unless you nest try-except blocks.

Answer: b) Yes, you can have multiple except blocks.

15)Which of the following is a good practice when handling exceptions?

a) Catching broad exceptions (like Exception) without a clear reason.

b) Silently ignoring exceptions.

c) Logging exceptions or taking appropriate action based on the exception type.

d) Always re-raising the exception without handling it.

Answer: c) Logging exceptions or taking appropriate action based on the exception type.