MODULE 1

GRADED QUIZ: PYTHON BASICS

Your grade: 100%

Your latest: **100%** • Your highest: **100%** • To pass you need at least 70%. We keep your highest score.

Next item →

1. After executing the following lines of code, what value does x hold? **1 / 1 point**

```
x=1
x=x+1
```

- ○ 1
- ◉ 2
- ○ 3
- ○ 4

Correct
Correct! The value x = x + 1 changes the value of x when it's self-assigned. It proves beneficial to update x with its current value, such as x = 1 + 1 in this scenario.

2. What is the output of the following operation 1+3*2? **1 / 1 point**

- ◉ 7
- ○ 8
- ○ 12
- ○ 10

Correct
Correct! Python follows the standard mathematical conventions.

3. What data type does the value "7.1" represent? **1 / 1 point**

- ○ Character
- ◉ String
- ○ Integer
- ○ Float

Correct
Correct! As the element is enclosed in quotes, it is a string type.

4. What is the output of the following code segment? **int(False)** **1 / 1 point**

- ○ False
- ○ 1
- ◉ 0
- ○ Error

Correct
Correct! Converting a Boolean False to an integer results in the value 0.

5. In Python, what is the output of the following operation? **'5'+'6'** 1 / 1 point

- ○ '5'
- ○ 11
- ○ '11'
- ◉ '56'

Correct
Correct! When the '+' operator is used with strings, it does not add them together like it does with numbers. Instead, it concatenates them, meaning it joins them together to form a new string.

6. Given **myvar = 'hello'**, how would you return **myvar** as uppercase? 1 / 1 point

- ○ myvar.find('hello')
- ○ upper(myvar)
- ◉ myvar.upper()
- ○ len(myvar)

Correct
Correct! The upper method returns a copy of the string in which all case-based characters have been converted to uppercase.

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7. What is the output of the following? **str(1)+str(1)** 1 / 1 point

- ○ 2
- ◉ '11'
- ○ 11
- ○ ‘2’

Correct
Correct! It converts the integers into strings and then concatenates these strings.

8. What is the output of the following? **"123".replace("12", "ab")** 1 / 1 point

- ○ '123ab'
- ○ ‘ab’
- ○ ‘12c’
- ◉ 'ab3'

Correct
Correct! The **replace** method returns a copy of the string by substituting all instances of the old substring.

9. After the operation x = 2/2 in Python 3, what data type does variable x hold? **1 / 1 point**

- ○ str
- ○ int
- ◉ float
- ○ char

Correct
Correct! Regular division in Python 3 always produces a float as the result.

10. For the string “Fun Python” stored in a variable `x`, what will be the output of `x[0:5]`? **1 / 1 point**

- ○ ‘ Pytho’
- ◉ ‘Fun P’
- ○ ‘Python’
- ○ Error

Correct
Correct! The code will return ‘Fun P’.

Module 2 Graded Quiz: Python Data Structures

Your grade: 100%

Your latest: **100%** • Your highest: **100%** • To pass you need at least 70%. We keep your highest score.

Next item →

1. Examine the tuple **A=((11,12),[21,22])**, which involves a tuple and list. What is the outcome of the following operation **A[1]**? 1 / 1 point

- 11
- (11,12)
- ((11,12),[21,22])
- [21,22]

Correct
Correct! The index 1 corresponds to the second element in the tuple, which contains another list.

2. Examine the tuple **A=((1),[2,3],[4])**, that involves a tuple and list. What is the outcome of the following operation **A[2][0]**? 1 / 1 point

- 1
- [4]
- 4
- 2

Correct
Correct! A[2] refers to the third nested list. To retrieve the sole element of this list, we use the index 0, denoted as A[2][0].

3. If L = [‘c’, ‘d’], then the output of the statement `L.append([‘a’, ‘b’])` is: 1 / 1 point

- [‘c’, ‘d’, [‘a’, ‘b’]]
- [‘c’, ‘d’, ‘a’, ‘b’]
- [‘a’, ‘b’, ‘c’, ‘d’]
- [[‘a’, ‘b’], ‘c’, ‘d’]

Correct
Correct! The statement will add the list as a single element in L.

4. Consider the following list: **A=["hard rock",10,1.2]** 1 / 1 point

What will list A contain after the following command is run? **del(A[1])**

- ["hard rock",1.2]
- Syntax error
- [10,1.2]
- ["hard rock",10]

Correct
Correct! The element in index 1 will be deleted.

5. Which of the following syntax is helpful to clone list A and assign the result to list B? 1 / 1 point

- (●) B=A[:]
- ( ) A = B
- ( ) B[:] = A
- ( ) B=A

Correct
Correct! The colon operator is used to create duplicate or clone.

6. What is the result of the following? **len(("disco",10))** 1 / 1 point

- ( ) 6
- ( ) 5
- ( ) 7
- (●) 2

Correct
Correct! The function “len” returns the number of elements in a list.

7. Consider the following dictionary: 1 / 1 point

{"The Bodyguard":"1992", "Saturday Night Fever":"1977"}

Select the keys.

- [ ] "1977"
- [ ] "1992"
- [x] "Saturday Night Fever"

Correct
Partially correct! This is one of the keys.

- [x] "The Bodyguard"

Correct
Partially correct! This is one of the keys.

8. The variable **release_year_dict** is a Python dictionary, what is the outcome of applying the following method? **release_year_dict.keys()** 1 / 1 point

- (●) Retrieves the keys of the dictionary
- ( ) Retrieves the entire contents of the dictionary
- ( ) Retrieves the values of the dictionary
- ( ) Changes the dictionary to a list

Correct
Correct! The method returns the keys.

9. Consider the set: **V={'1','2'}**, what is the result of **V.add('3')**? 1 / 1 point

- ( ) Error
- (●) {'1','2','3'}
- ( ) {1,2,3}
- ( ) {'1','2'}

Correct
Correct! The method will add a new value to the current set.

10. What is the outcome of the following? **'1' in {'1','2'}** 1 / 1 point

- ( ) False
- ( ) 0
- ( ) 1
- (●) True

Correct
Correct! The conditional statement is true.

Module 3 Graded Quiz: Python Programming Fundamentals

Your grade: 90%

Your latest: **90%** • Your highest: **90%** • To pass you need at least 70%. We keep your highest score.

Next item →

1. What is the output of the following code? 1 / 1 point

```
x = "Go"
if x == "Go":
    print('Go')
else:
    print('Stop')
print('Mike')
```

- ○ Stop Mike
- ◉ Go Mike
- ○ Go Stop
- ○ Mike

Correct
Correct! The if clause executes first, followed by the last print statement.

2. Which of the following is the value of x after the following lines of code? 1 / 1 point

```
x = x > 5
```

- ◉ False
- ○ True
- ○ 0
- ○ 1

Correct
Correct! The condition is false as the value of x is less than 5.

3. What is the result of the following few lines of code? 1 / 1 point

```
x = 0
while x < 2:
    print(x)
    x = x + 1

```

- (●) 0
  1
- ( ) The program will never leave the loop.
- ( ) 0
  1
  3
  4
- ( ) 0
  1
  2

Correct

4. What is the result of running the following lines of code? 1 / 1 point

```
        self.x = x
        self.y = y
    def print_point(self):
        print('x=', self.x, ' y=', self.y)


p1 = Points(1, 2)
p1.print_point()
```

- ( ) y=2
- ( ) x=1;
- ( ) x=y=
- (●) x=1 y=2

Correct
Correct! The print statement will display the two values as 'x=1 y=2.

5. What is the output of the following few lines of code? **1 / 1 point**

```
for i, x in enumerate(['A', 'B', 'C']):
    print(i, 2 * x)
```

- 0 A
  2 B
  4 C
- 0 A
  1 B
  2 C
- 0 AA
  1 BB
  2 CC
- 1 AA
  2 BB

6. What is the result of running the following lines of code? **1 / 1 point**

```
class Points(object):
    def __init__(self, x, y):
        self.x = x
        self.y = y
    def print_point(self):
        print('x=', self.x, ' y=', self.y)


p2 = Points(1, 2)
p2.x = 2
p2.print_point()
```

- x= A y=2
- x=2 y=2
- x=1 y=1
- x=1 y=2

Correct
Correct! The attribute changed before the function call, resulting in 'x= A y=2'.

7. Considering the function step, when will the following function return a value of 1? 0 / 1 point

```
def step(x):
    if x > 0:
        y = 1
    else:
        y = 0
    return y

```

- (●) If x is equal to or greater than zero
- ( ) If x is equal to or less than zero
- ( ) If x is larger than 0
- ( ) If x is less than zero

Incorrect
Incorrect. Refer to the Functions video.

8. What is the output of the following lines of code 1 / 1 point

```
a = 1


def do(x):
    return x + a


print(do(1))

```

- ( ) 1
- ( ) 0
- (●) 2
- ( ) NameError: name 'a' is not defined.

Correct
Correct! The function will use the value of 'a' in the global scope.

9. Which three of the following functions will perform the addition of two numbers without any error? [Select three.] 1 / 1 point

- [x] def add(a, b):

  return(sum((a, b)))

  Correct
  Partially correct! It is one of the correct options.

- [ ] def add(a, b):

  return(sum(a, b)

- [x] def add(a, b):

  c = a+b

  return(c)

  Correct
  Partially correct! It is one of the correct options.

- [x] def add(a, b):

  return(a+b)

  Correct
  Partially correct! It is one of the correct options.

10. Why is it the best practice to have multiple except statements with each type of error labeled correctly? 1 / 1 point

- ( ) Ensure catching the error for program termination
- ( ) It is not necessary to label errors
- ( ) To skip specific sections of code during its execution
- (•) To determine the type of error thrown and its location within the program

Correct
Correct! Multiple except statements will help in identifying each type of error.

Module 4 Graded Quiz: Working with Data in Python

Your grade: 100%

Your latest: **100%** • Your highest: **100%** • To pass you need at least 70%. We keep your highest score.

Next item →

1. What is the outcome of the following lines of code? 1 / 1 point

```
a=np.array([-1,1])
b=np.array([1,1])
np.dot(a,b)
```

- (•) 0
- ( ) 1
- ( ) array([0,2])
- ( ) array([[-1, -1], [1, 1]])

Correct
Correct! The given code creates two Numpy arrays, a and b, and then calculates their dot product using np.dot (a, b).

2. How do you perform matrix multiplication on the Numpy arrays **A** and **B**? 1 / 1 point

- (•) np.dot(A,B)
- ( ) A*B
- ( ) A – B
- ( ) A + B

Correct
Correct! The dot method is used to multiply the two arrays.

3. If you run the following lines of code, what values will the variable 'out' take? 1 / 1 point

```
X=np.array([[1,0,1],[2,2,2]])
out=X[0:2,2]
```

- ( ) array([0,2])
- ( ) array([1,0])
- ( ) array([1,1])
- (•) array([1,2])

Correct
Correct! The first index corresponds to the rows; the second index corresponds to the columns.

4. If you run the following lines of code, what values will the variable 'out' take? 1 / 1 point

```
X=np.array([[1,0],[0,1]])
Y=np.array([[2,2],[2,2]])
Z=np.dot(X,Y)
```

- array([[3,2],[2,3]])
- array([[1,0],[0,1]])
- array([[2,0],[0,2]])
- array([[2,2], [2,2]])

Correct
Correct! The dot function corresponds to matrix multiplication.

5. Consider the following text file: **Example1.txt**: 1 / 1 point

This is line 1

This is line 2

This is line 3

What is the output of the following lines of code?

```
with open("Example1.txt","r") as file1:
    file_stuff=file1.readline()

print(file_stuff)
```

- This is line 1

  This is line 2
- Syntax error
- This is line 1
- This is line 1

  This is line 2

  This is line 3

6. What do the following lines of code do? 1 / 1 point

```
with open("Example1.txt","r") as file1:
    FileContent=file1.read()

print(FileContent)
```

- (●) Read the file "Example1.txt"
- ( ) Append the file "Example1.txt"
- ( ) Convert the contents of the file to a binary format
- ( ) Write to the file "Example1.txt"

Correct
Correct! The mode is set to 'r' for read.

7. What do the following lines of code do? 1 / 1 point

```
with open("Example.txt","w") as writefile:
    writefile.write("This is line A\n")
 writefile.write("This is line B\n")
```

- ( ) Read the file "Example.txt"
- (●) Write to the file "Example.txt"
- ( ) Append the file "Example.txt"
- ( ) Create a binary file "Example.txt"

Correct
Correct! The mode of the function is 'w' for write.

8. What task do the following lines of code accomplish? 1 / 1 point

```
with open('Example2.txt','r') as readfile:
    with open('Example3.txt','w') as writefile:
        for line in readfile:
            writefile.write(line)
```

- (●) Copying the text from Example2.txt to Example3.txt
- ( ) Checking the mode of the open function for each file object
- ( ) Printing out the content of Example2.txt
- ( ) Reading the content of Example2.txt

Correct
Correct! This is the expected outcome.

9. Given the dataframe df, how can you retrieve the element in the second row and first column? **1 / 1 point**

- (●) df.iloc[1,0]
- ( ) df.iloc[3,1]
- ( ) df.iloc[2,0]
- ( ) df.iloc[1,3]

Correct
Correct! Indexing begins at 0 in Python.

10. What function would you use to load a CSV file in Pandas? **1 / 1 point**

- (●) pd.read_csv(path)
- ( ) pd.read_excel(path)
- ( ) np.read_csv(path)
- ( ) pd.load_csv(path)

Correct
Correct! The read method will read the CSV file in Pandas.

Module 5 Graded Quiz: APIs and Data Collection

Your grade: 100%

Your latest: **100%** • Your highest: **100%** • To pass you need at least 60%. We keep your highest score.

Next item →

1. What are the three parts of a response message? 1 / 1 point

- (•) Start or status line, header, and body
- ( ) Encoding, body, and cache
- ( ) HTTP headers, blank line, and body
- ( ) Bookmarks, history, and security

Correct
Correct! Start or status line, header, and body are the appropriate parts of any response message.

2. What does the line of code **"table_row = table.find_all(name='tr')"** do in web scraping? 1 / 1 point

- ( ) It locates all the data within the table marked with a tag "**p**"
- (•) It locates all the data within the table marked with a tag "**tr**"
- ( ) It locates all the data within the table marked with a tag "**a**"
- ( ) It locates all the data within the table marked with a tag "**h1**"

Correct
Correct! It finds and assigns 'tr' tags as a list to the variable table_row.

3. What data structure do HTTP responses typically use for their return? 1 / 1 point

- (•) JSON
- ( ) Tuples
- ( ) Lists
- ( ) Nested lists

Correct
Correct! JSON is a key value pair format commonly used in web interfaces.

4. Complete the sentence. The Python library we used to plot the graphs is_____. 1 / 1 point

- PyCoinGecko
- Pandas
- matplotlib
- Plotly

Correct
Correct! The Python library we used to plot the graphs is MatPlotLib.

5. What is the role of **'td'** tag in HTML files? 1 / 1 point

- Table row
- Table cell data
- Table description
- Table caption

Correct
Correct! 'td' refers to table cell data.

Your grade: 95%

Your latest: **95%** • Your highest: **95%** • To pass you need at least 75%. We keep your highest score.

Next item →

1. In Python, which data type represents text? 1 / 1 point

- ○ complex
- ○ float
- ○ int
- ◉ str

Correct
Correct! String data type represents the text.

2. What purpose does the Python find() method serve? 1 / 1 point

- ◉ The method finds the starting index of a substring.
- ○ The method finds every second index of a substring.
- ○ The method finds the ending index of a substring.
- ○ The method finds the length of a substring.

Correct
Correct! find() method locates the starting index of a substring.

3. When using the double slash "//" for integer division the result will be? 1 / 1 point

- ○ Rounded up to nearest integer
- ◉ Truncated to return only integer part
- ○ Same as simple division
- ○ Truncated to return only fractional part.

Correct
Correct! The division using // returns only the integer part of the result.

4. How many identical keys can a dictionary have? 0 / 1 point

- ○ 0
- ◉ 1
- ○ No limit
- ○ 3

Incorrect
Correct! A dictionary cannot have any identical keys.

5. In a list or tuple, what does the index of "1" represent? **1 / 1 point**

- (●) The second element
- ( ) The third element
- ( ) The first element
- ( ) The last element

Correct
Correct! Index 1 refers to the second element of a list or tuple.

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6. What line of code would produce this output: ['1','2','3','4']? **1 / 1 point**

- ( ) '1,2,3,4'.reverse(',')
- ( ) '1,2,3,4'.join(',')
- ( ) '1,2,3,4'.split(':')
- (●) '1,2,3,4'.split(',')

Correct
Correct! split() method breaks the string into a list of strings based on the chosen delimiter.

7. Which of the following collection lacks order, indexing, and prohibits duplicate members? **1 / 1 point**

- ( ) Tuple
- (●) Set
- ( ) List
- ( ) Dictionary

Correct
Correct! Sets are lacks order, indexing, and prohibits duplicate members.

8. For the code shared below, what value of x will produce the output “How are you?”? [Select three] 1 / 1 point

How are you?

```
if(x!=1):
 print('How are you?')
else:
 print('Hi')
```

- [x] x = "7"

  Correct
  Partially correct! This is one of the values that would produce the required result.

- [x] x = 6

  Correct
  Partially correct! This is one of the values that would produce the required result.

- [ ] x = 1
- [x] x = 0

  Correct
  Partially correct! This is one of the values that would produce the required result.

9. Why is the “finally” statement used? 1 / 1 point

- ( ) Only execute the remaining code if one condition is false.
- (•) Ensures the execution of the remaining code regardless of the outcome.
- ( ) Only execute the remaining code if an error occurs.
- ( ) Only execute the remaining code if no errors occur.

Correct
Correct! Statements under Finally clause are always executed.

10. For the provided add function below, what is the return value of the following? 1 / 1 point

```
def add(x):
  return(x + x)

add('1')
```

- (•) '11'
- ( ) '2'
- ( ) 2
- ( ) Error

Correct
Correct! Addition of two strings will lead to concatenation.

11. What code segment would output the following? 1 / 1 point

1

3

4

- ```
  for i in range(1,5):
      if (i!=1):
        print(i)
  ```

- ```
  for i in range(1,5):
      if (i==2):
        print(i)
  ```

- ```
  for i in range(1,5):
      if (i!=2):
        print(i)
  ```

- ```
  for i in range(1,5):
      if (i!=5):
        print(i)
  ```

Correct

12. Consider the class Rectangle, what are the data attributes? 1 / 1 point

```
class Rectangle(object):
  def __init__(self,width=2,height =3,color='r'):
    self.height=height
    self.width=width
    self.color=color
  def drawRectangle(self):
    import matplotlib.pyplot as plt
    plt.gca().add_patch(plt.Rectangle((0, 0),self.width, self.height ,fc=self.color))
    plt.axis('scaled') plt.show()
```

- __init__
- import matplotlib
- drawRectangle
- self.height, self.width, self.color

Correct
Correct! Data attributes are the variables of the class.

13. Which method arranges the elements in a given list in a particular ascending or descending order? **1 / 1 point**

- replace()
- sort()
- join()
- split()

Correct
Correct! sort() method modifies the array itself and does not generate a new list.

14. What outcome do the following lines of code produce? **1 / 1 point**

```
a=np.array([0,1,0,1,0])
b=np.array([1,0,1,0,1])
a*b
```

- 0
- 1
- array([0, 0, 0, 0, 0])
- array([1, 1, 1, 1, 1])

Correct
Correct! The code multiplies elements individually, resulting in all values becoming 0s.

15. What line of code would produce the following: array([11, 11, 11, 11, 11])? **1 / 1 point**

- a=np.array([1,2,1,1,1])
  a+10
- a=np.array([1,1,1,1,1])
  a+1
- a=np.array([1,1,1,1,1])
  11-a
- a=np.array([1,1,1,1,1])
  a+10

Correct
Correct! Each element of the array has the constant added to it.

16. How would you select the columns with the headers: Artist, Length and Genre from the dataframe **df** and assign them to the variable **y**? 1 / 1 point

- y= df('Artist','Length','Genre')
- y=df[['Artist','Length','Genre']]
- y=df[['Artist'],['Length'],['Genre']]
- y=df['Artist','Length','Genre']

Correct
Correct! The double brackets select the columns of a dataframe.

17. Consider the file object: **File1.**What would the following line of code output? 1 / 1 point

file1.readline(4)

- It would output the first 4 characters from the text file.
- It would output the entire text file.
- It would output the last 4 characters from the text file.
- It would output the first 4 lines from the text file.

Correct
Correct! In the readline method, the size argument determines the number of bytes to return from the line.

18. Consider the following line of code: 1 / 1 point

with open("Example.txt","a") as file1:

What mode is the file object in?

- append
- write
- binary
- read

Correct
Correct! The code uses the "a" mode in the open function, which stands for append. This mode allows the file to remain open for writing.

19. What does URL stand for? 1 / 1 point

- Unilateral Resistant Locator
- Uniform Resource Location
- Uniform Resource Locator
- Uniform Reset Locator

Correct
Correct! URL is a uniform resource locator, pointing to a we resource.

20. Using which of the following functions, can you extract a table from a webpage directly? **1 / 1 point**

- (●) pandas.read_html()
- ( ) pandas.read_csv()
- ( ) pandas.read_xml()
- ( ) pandas.read_json()

Correct
Correct! read_html() function of pandas library is capable of extracting all tables from a webpage and save it as a list of dataframes.