98-381.exam.20q

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Passing Score: 800
Time Limit: 120 min
File Version: 1

Microsoft 98-381

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Introduction to Programming Using Python

Exam A

QUESTION 1
HOTSPOT

During school holidays, you volunteer to explain some basic programming concepts to younger siblings.
You want to introduce the concept of data types in Python. You create the following three code segments:

```
# Code segment 1
x1 = "20"
y1 = 3
a = x1 * y1

# Code segment 2
x2 = 6
y2 = 4
b = x2 / y2

# Code segment 3
x3 = 2.5
y3 = 1
c = x3 / y3
```


You need to evaluate the code segments.

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

	Yes	No
After executing code segment 1, the data type of variable `a` is `str`.	○	○
After executing code segment 2, the data type of variable `b` is `float`.	○	○
After executing code segment 3, the data type of variable `c` is `int`.	○	○

Correct Answer:

Answer Area

	Yes	No
After executing code segment 1, the data type of variable `a` is `str`.	○	●
After executing code segment 2, the data type of variable `b` is `float`.	●	○
After executing code segment 3, the data type of variable `c` is `int`.	○	●

Section: (none)
Explanation

Explanation/Reference:
References: https://www.w3resource.com/python/python-data-type.php

QUESTION 2
DRAG DROP

Match the data type to the type operations.

To answer, drag the appropriate data type to the correct type operation. Each data type may be used once, more than once, or not at all.

Select and Place:

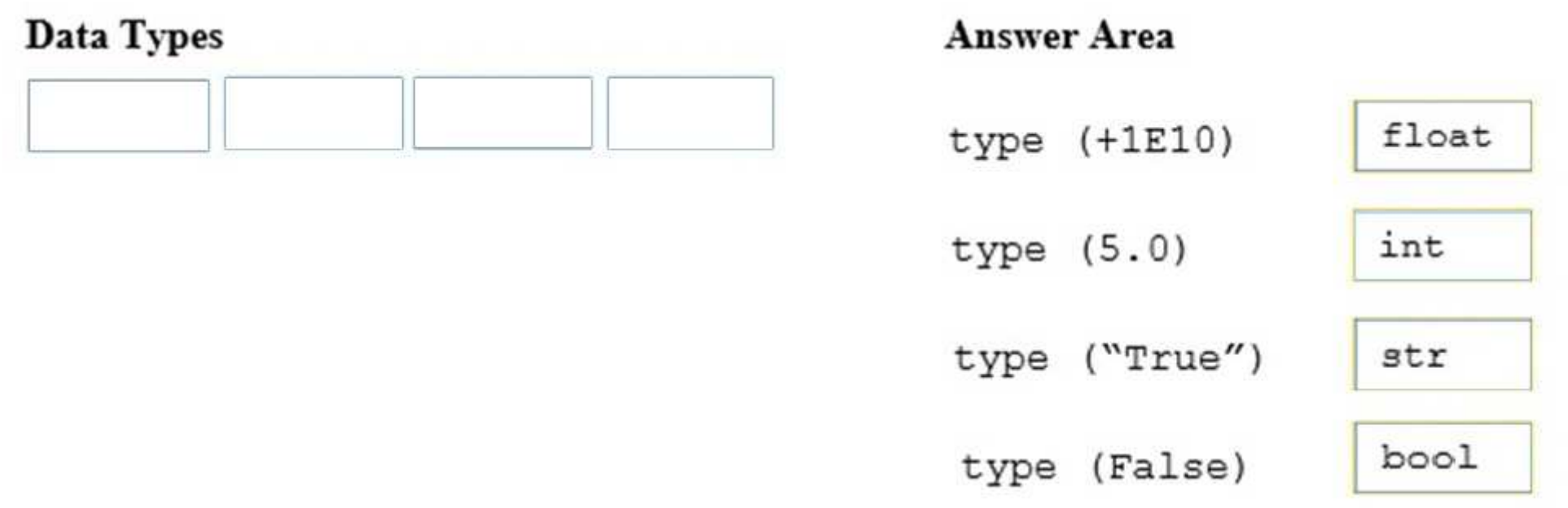
Data Types

int	float	str	bool

Answer Area

```
type (+1E10)
type (5.0)
type ("True")
type (False)
```

Correct Answer:



Section: (none)
Explanation

Explanation/Reference:
References: https://www.w3resource.com/python/python-data-type.php

QUESTION 3
HOTSPOT

The ABC company needs a way to find the count of particular letters in their publications to ensure that there is a good balance. It seems that there have been complaints about overuse of the letter e. You need to create a function to meet the requirements.

How should you complete this code? To answer, select the appropriate code segments in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

```
#Function accepts list of words from a file,
#and letter to search for.
#Returns count of a particular letter in that list.


def count_letter(letter, word_list):
    count=0
    for [word_list in word:]
        [word in word_list:]
        [word == word_list:]
        [word is word_list:]

        if [word is letter:]
            [letter is word:]
            [word in letter:]
            [letter in word:]
            count += 1
    return count


word_list =[]


#word_list is populated a from file. Code not shown.

letter = input("which letter would you like to count")

letter_count= count_letter(letter, word_list)
print("There are: " , letter_count, " instances of " + letter)
```

Correct Answer:

Answer Area

```
#Function accepts list of words from a file,
#and letter to search for.
#Returns count of a particular letter in that list.


def count_letter(letter, word_list):
    count=0
    for [word_list in word:
         word in word_list:
         word == word_list:
         word is word_list:]
        if [word is letter:
            letter is word:
            word in letter:
            letter in word:]
            count += 1
    return count

word_list =[]


#word_list is populated a from file. Code not shown.

letter = input("which letter would you like to count")

letter_count= count_letter(letter, word_list)
print("There are: " , letter_count, " instances of " + letter)
```

Section: (none)
Explanation

Explanation/Reference:
References: https://www.w3resource.com/python/python-for-loop.php

QUESTION 4
HOTSPOT

The ABC Video company needs a way to determine the cost that a customer will pay for renting a DVD. The cost is dependent on the time of day the DVD is returned. However, there are also special rates on Thursdays and Sundays. The fee structure is shown in the following list:

- The cost is $1.59 per night.
- If the DVD is returned after 8 PM, the customer will be charged an extra day.
- If the video is rented on a Sunday, the customer gets 30% off for as long as they keep the video.
- If the video is rented on a Thursday, the customer gets 50% off for as long as they keep the video.

You need to write code to meet the requirements.

How should you complete the code? To answer, select the appropriate code segments in the answer area.

Hot Area:

Answer Area

```
#   ABC      Video, DVD Rental Calculator

ontime = input("Was video returned before 8 pm? y or n").lower()

days_rented = int(input("How many days was video rented?"))

day_rented = input("What day was the video rented?").capitalize()

cost_per_day = 1.59

if ontime [ != "n": | == "n": | == "y": ]
    days_rented +-1

if day_rented [ == "Sunday ": | >= "Sunday ": | is " Sunday ": ]
    total = (days_rented * cost_per_day) * .7

elif day_rented [ == "Thursday": | <= "Thursday": ]
```

Correct Answer:

Answer Area

```
#   ABC      Video, DVD Rental Calculator

ontime = input("Was video returned before 8 pm? y or n").lower()

days_rented = int(input("How many days was video rented?"))

day_rented = input("What day was the video rented?").capitalize()

cost_per_day = 1.59

if ontime [ != "n": | == "n": | == "y": ]
    days_rented +-1

if day_rented [ == "Sunday ": | >= "Sunday ": | is " Sunday ": ]
    total = (days_rented * cost_per_day) * .7

elif day_rented [ == "Thursday": | <= "Thursday": ]
```

Section: (none)
Explanation

Explanation/Reference:
References:
https://www.w3resource.com/python/python-operators.php
https://www.w3resource.com/python/python-if-else-statements.php

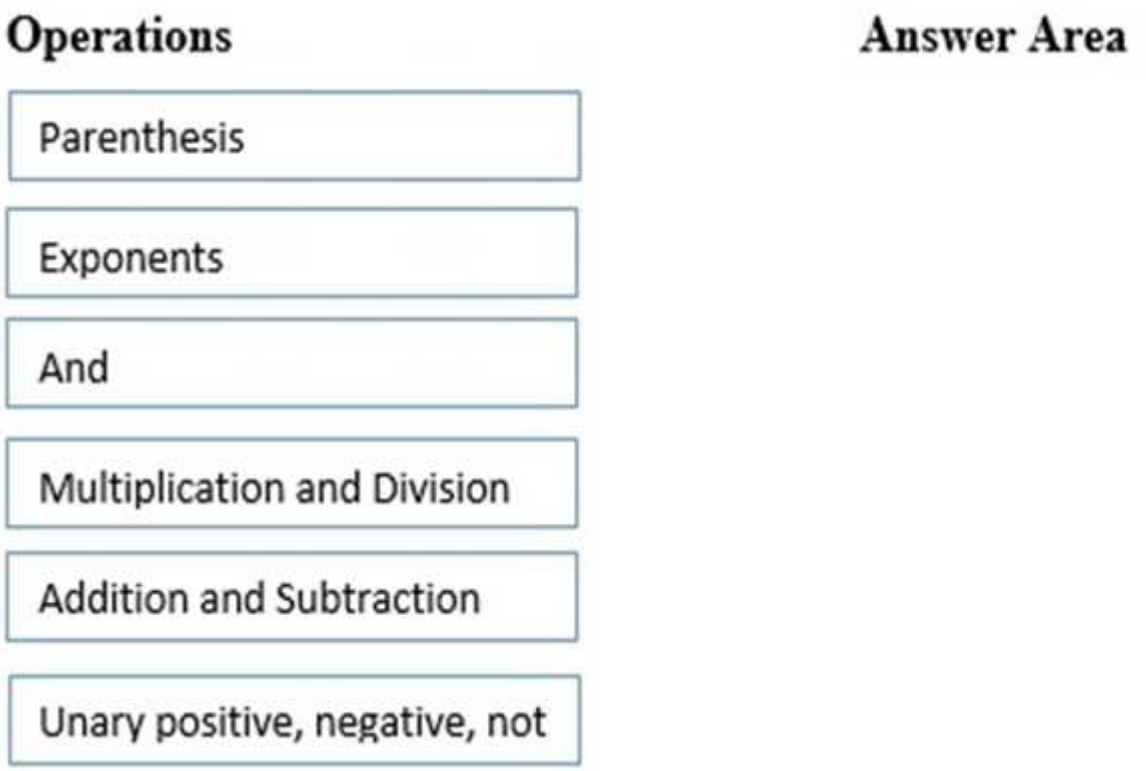
QUESTION 5
DRAG DROP

The ABC company is converting an existing application to Python. You are creating documentation that will be used by several interns who are working on the team.

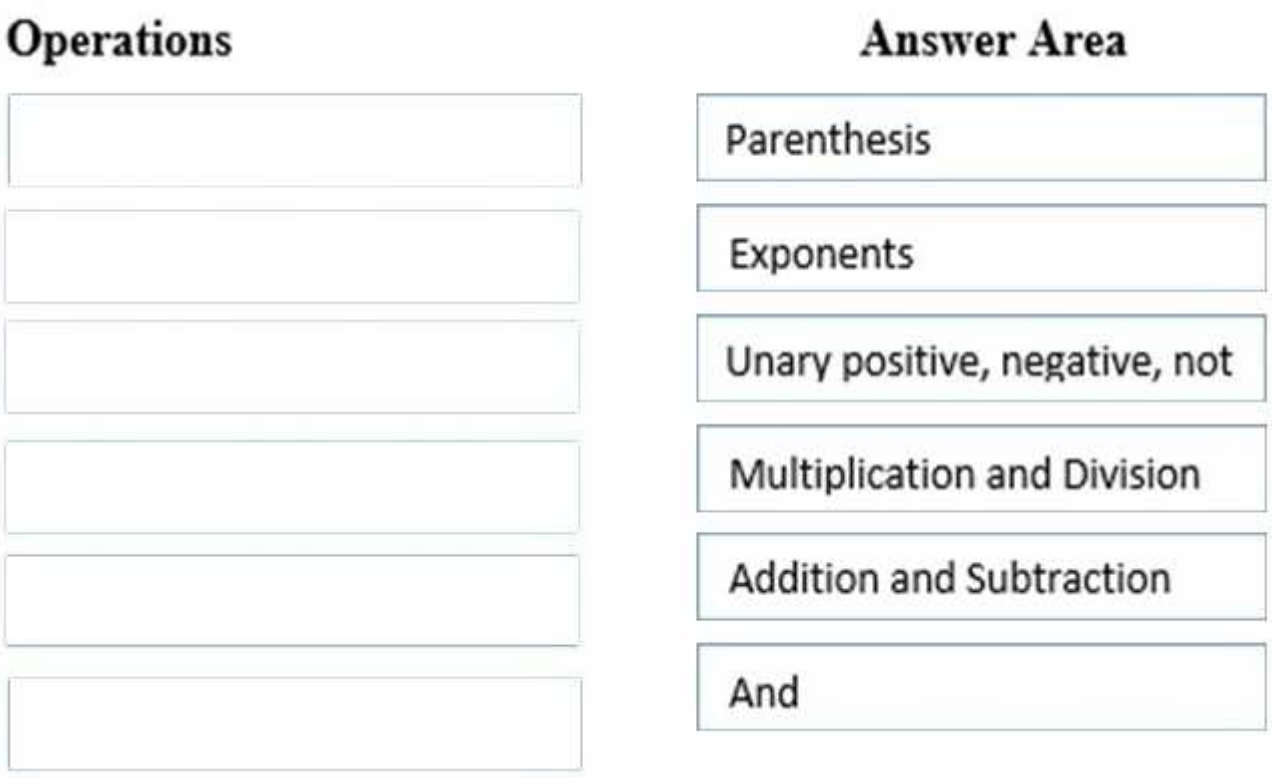
You need to ensure that arithmetic expressions are coded correctly.

What is the correct order of operations for the six classes of operations ordered from first to last in order of precedence? To answer, move all operations from the list of operations to the answer area and arrange them in the correct order.

Select and Place:



Correct Answer:



Section: (none)
Explanation

Explanation/Reference:
References: http://www.mathcs.emory.edu/~valerie/courses/fall10/155/resources/op_precedence.html

QUESTION 6
DRAG DROP

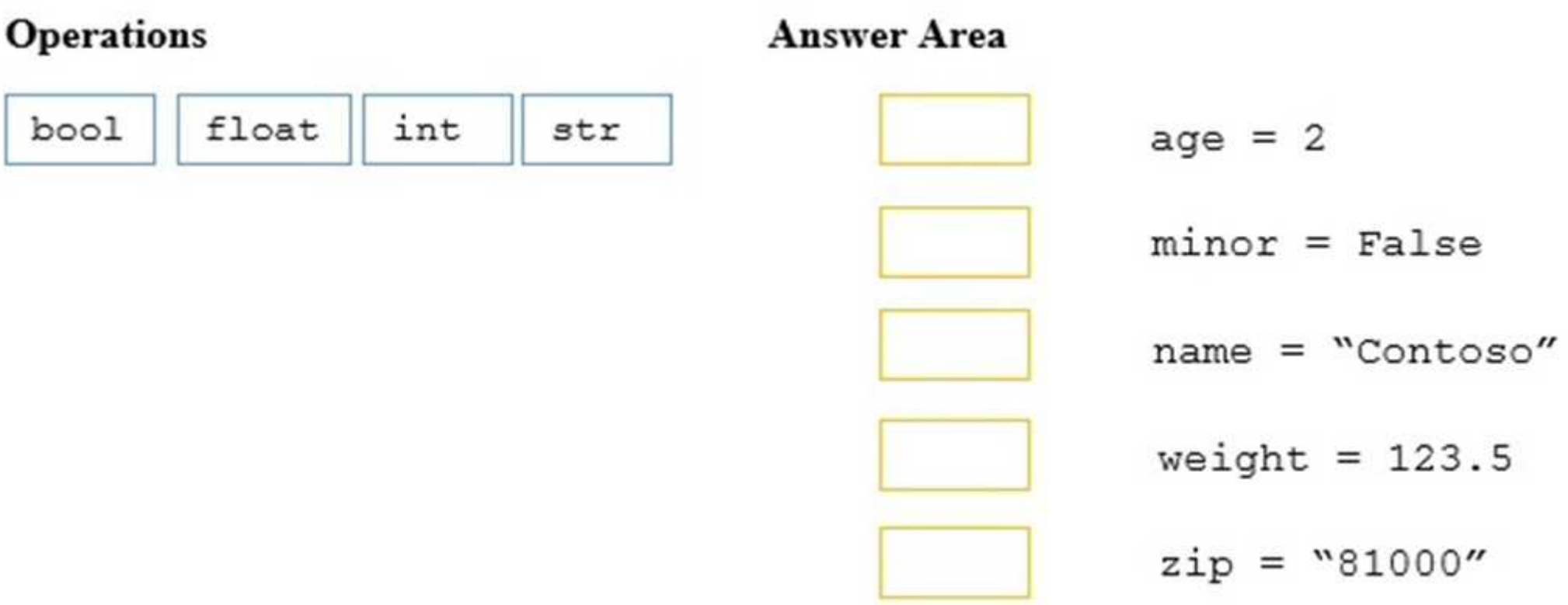
You are writing a Python program. The program collects customer data and stores it in a database.

The program handles a wide variety of data.

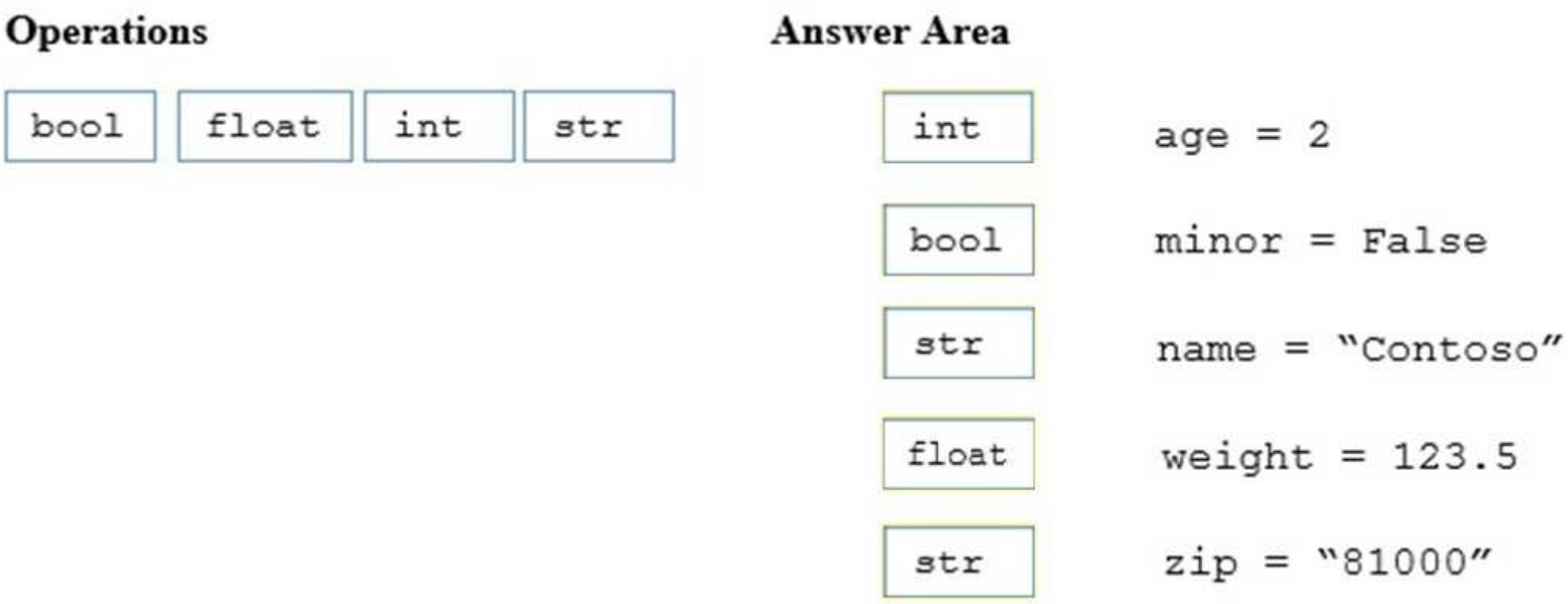
You need to ensure that the program handles the data correctly so that it can be stored in the database correctly.

Match the data type to the code segment. To answer, drag the appropriate data type from the column on the left to its code segment on the right. Each data type may be used once, more than once, or not at all.

Select and Place:



Correct Answer:



Section: (none)
Explanation

Explanation/Reference:
References: https://www.w3resource.com/python/python-data-type.php

QUESTION 7
You are creating a Python program that shows a congratulation message to employees on their service anniversary.

You need to calculate the number of years of service and print a congratulatory message.
You have written the following code. Line numbers are included for reference only.

```
01 start = input("How old were you on your start date?")
02 end = input("How old are you today?")
03
```

You need to complete the program.

Which code should you use at line 03?

A. `print("Congratulations on" + (int(end)-int(start)) + "years of service!"`
B. `print("Congratulations on" + str(int(end)-int(start)) + "years of service!"`
C. `print("Congratulations on" + int(end - start) + "years of service!"`
D. `print("Congratulations on" + str(end - start)) + "years of service!"`

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 8
HOTSPOT

You are developing a Python application for your company.

You write the following code:

```
numList = [1,2,3,4,5]
alphaList = ["a","b","c","d","e"]
print(numList is alphaList)
print(numList == alphaList)
numList = alphaList
print(numList is alphaList)
print(numList == alphaList)
```

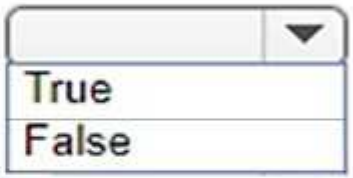
Use the drop-down menus to select the answer choice that answers each question based on the information presented in the code segment.

Hot Area:

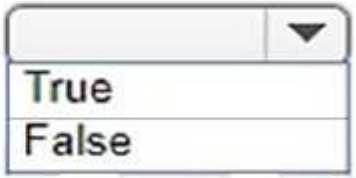
Answer Area

What is displayed after the first print?

What is displayed after the second print?



What is displayed after the third print?



What is displayed after the fourth print?

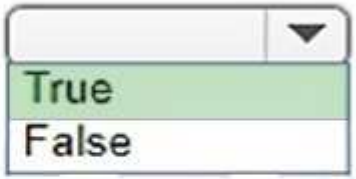
Correct Answer:

Answer Area

What is displayed after the first print?

What is displayed after the second print?

What is displayed after the third print?



What is displayed after the fourth print?

Section: (none)
Explanation

Explanation/Reference:

References: https://www.w3resource.com/python/python-list.php

QUESTION 9
DRAG DROP

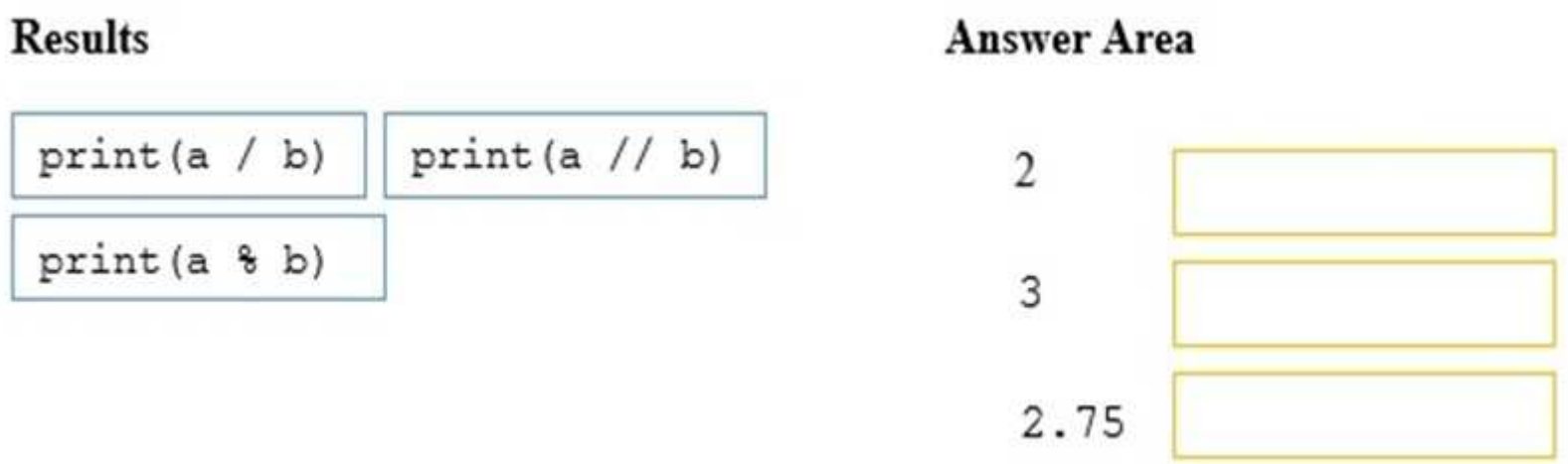
You are writing a Python program to perform arithmetic operations.

You create the following code:

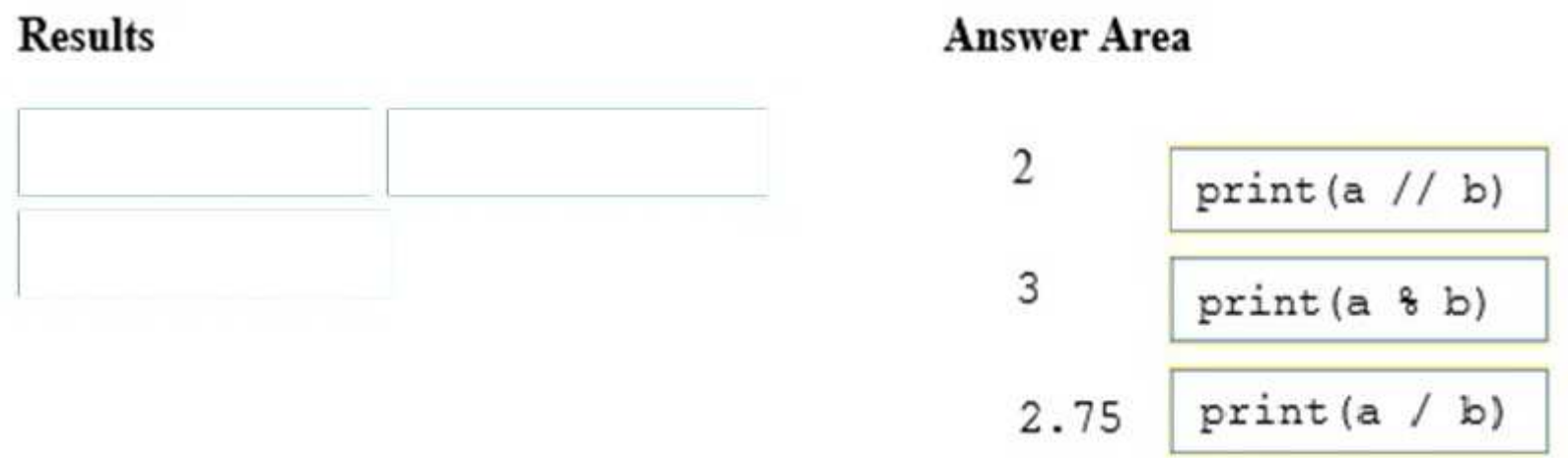
```
a = 11
b = 4
```

What is the result of each arithmetic expression? To answer, drag the appropriate expression from the column on the left to its result on the right. Each expression may be used once, more than once, or not at all.

Select and Place:



Correct Answer:



Section: (none)
Explanation

Explanation/Reference:
References: https://www.w3resource.com/python/python-operators.php

QUESTION 10
DRAG DROP

You are writing a Python program that evaluates an arithmetic formula.

The formula is described as b equals a multiplied by negative one, then raised to the second power, where `a` is the value that will be input and `b` is the result.

You create the following code segment. Line numbers are included for reference only.

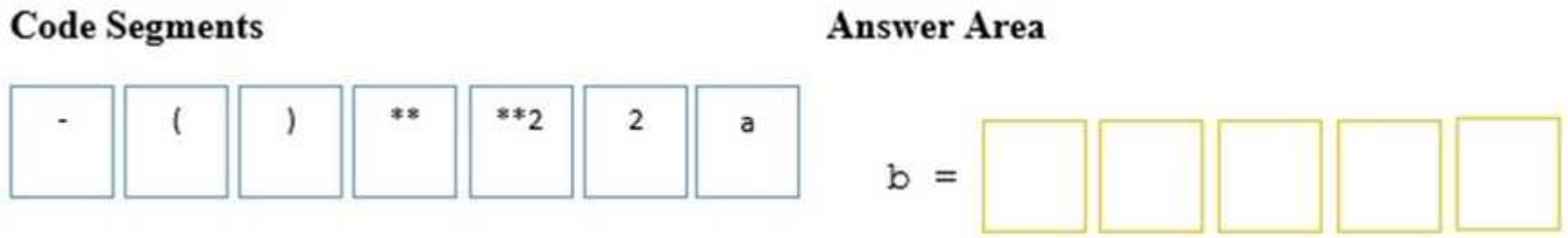
```
01 a = eval(input"Enter a number for the equation: "))
02 b =
```

You need to ensure that the result is correct.

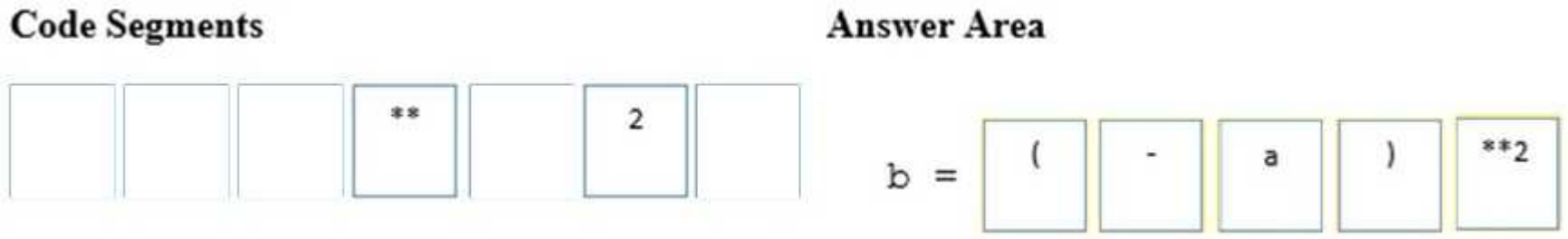
How should you complete the code on line 02? To answer, drag the appropriate code segment to the correct location. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:



Correct Answer:



Section: (none)
Explanation

Explanation/Reference:

QUESTION 11
Evaluate the following Python arithmetic expression:

```
(3*(1+2)**2 - (2**2)*3)
```

What is the result?

A. 3
B. 13
C. 15
D. 69

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
References: http://www.mathcs.emory.edu/~valerie/courses/fall10/155/resources/op_precedence.html

QUESTION 12
You develop a Python application for your company.

A list named `employees` contains 200 employee names, the last five being company management. You need to slice the list to display all employees excluding management.

Which two code segments should you use? Each correct answer presents a complete solution. (Choose two.)

A. `employees [1:-4]`
B. `employees [:-5]`
C. `employees [1:-5]`
D. `employees [0:-4]`
E. `employees [0:-5]`

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:
References: https://www.w3resource.com/python/python-list.php#slice

QUESTION 13
HOTSPOT

You are an intern for ABC electric cars company. You must create a function that calculates the average velocity of their vehicles on a 1320 foot (1/4 mile) track. The output must be as precise as possible.

How should you complete the code? To answer, select the appropriate code segments in the answer area.

Hot Area:

Answer Area

```
#Speed calculator



distance = [ ] (input("Enter the distance traveled in feet"))
           int
           str
           float
distance_miles = distance/5280 #convert to miles
time = [ ] (input("Enter the time elapsed in seconds"))
       int
       float
       str
time_hours = time/3600 #convert to hours
velocity = distance_miles/time_hours
print("The average velocity is : ", velocity, " miles/hour")
```

Correct Answer:

Answer Area

```
#Speed calculator


distance = [int / str / float] (input("Enter the distance traveled in feet"))
distance_miles = distance/5280 #convert to miles
time = [int / float / str] (input("Enter the time elapsed in seconds"))
time_hours = time/3600 #convert to hours
velocity = distance_miles/time_hours
print("The average velocity is : ", velocity, " miles/hour")
```

Section: (none)
Explanation

Explanation/Reference:
References: https://www.w3resource.com/python/python-data-type.php

QUESTION 14
You are creating a function that manipulates a number. The function has the following requirements:
- A `float` is passed into the function
- The function must take the absolute value of the `float`
- Any decimal points after the integer must be removed

Which two math functions should you use? Each correct answer is part of the solution? (Choose two.)

A. `math.fmod(x)`
B. `math.frexp(x)`
C. `math.floor(x)`
D. `math.ceil(x)`
E. `math.fabs(x)`

Correct Answer: DE
Section: (none)
Explanation

Explanation/Reference:
References: https://docs.python.org/2/library/math.html#number-theoretic-and-representation-functions

QUESTION 15
You are writing an application that uses the `sqrt` function. The program must reference the function using the name `squareRoot`.

You need to import the function.

Which code segment should you use?

A. `import math.sqrt as squareRoot`
B. `import sqrt from math as squareRoot`
C. `from math import sqrt as squareRoot`

D. `from math.sqrt as squareRoot`

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
References: https://infohost.nmt.edu/tcc/help/pubs/python/web/import-statement.html

QUESTION 16
You are writing code that generates a random integer with a minimum value of 5 and a maximum value of 11.

Which two functions should you use? Each correct answer presents a complete solution. (Choose two.)

A. `random.randint(5, 12)`
B. `random.randint(5, 11)`
C. `random.randrange(5, 12, 1)`
D. `random.randrange(5, 11, 1)`

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
References: https://docs.python.org/3/library/random.html#

QUESTION 17
DRAG DROP

You are writing a function that works with files.

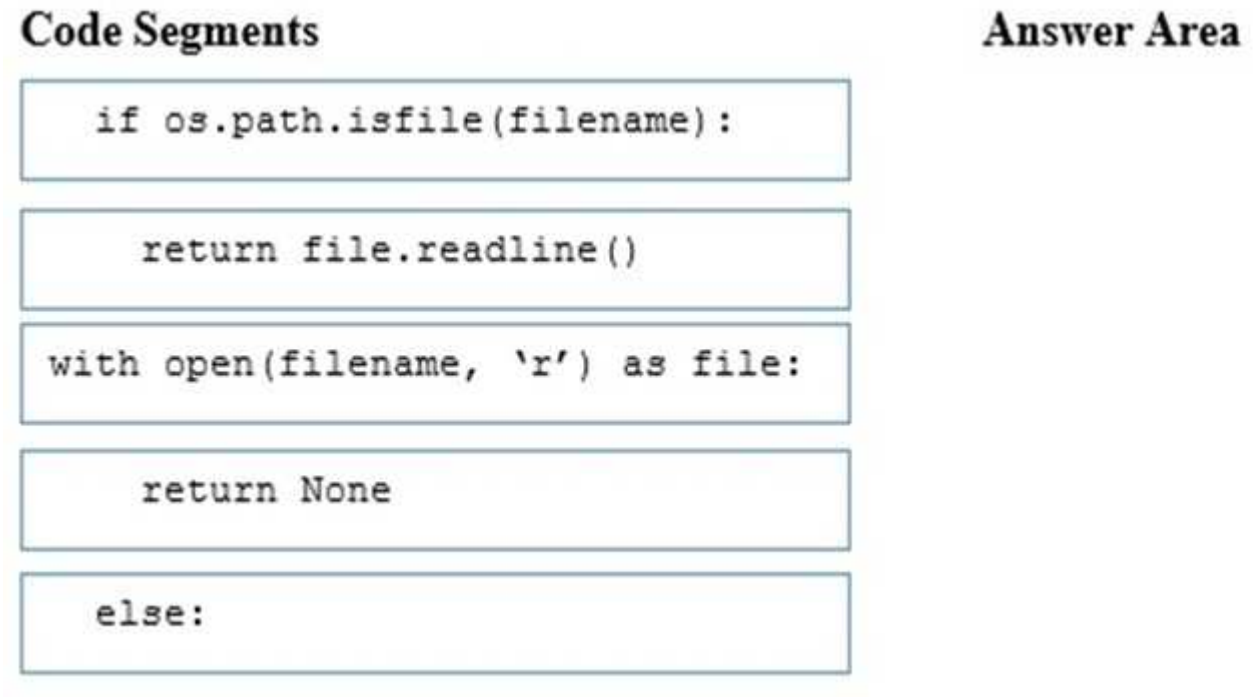
You need to ensure that the function returns None if the file does not exist. If the file does exist, the function must return the first line.

You write the following code:

```
import os
def get_first_line(filename, mode):
```

In which order should you arrange the code segments to complete the function? To answer, move all code segments from the list of code segments to the answer area and arrange them in the correct order.

Select and Place:



Correct Answer:

Code Segments

Answer Area

```
with open(filename, 'r') as file:
  if os.path.isfile(filename):
    return file.readline()
  else:
    return None
```

Section: (none)
Explanation

Explanation/Reference:
Explanation:

References: http://effbot.org/zone/python-with-statement.htm

QUESTION 18
You are writing a Python program to automate inventory. Your first task is to read a file of inventory transactions. The file contains sales from the previous day, including the item id, price, and quantity.

The following shows a sample of data from the file:

```
10, 200, 5
20, 100, 1
```

The code must meet the following requirements:
- Each line of the file must be read and printed
- If a blank line is encountered, it must be ignored
- When all lines have been read, the file must be closed

You create the following code. Line numbers are included for reference only.

```
01 inventory = open("inventory.txt", 'r')
02 eof = False
03 while eof == False:
04     line = inventory.readline()
05
06
07         print(line)
08     else:
09       print ("End of file")
10       eof = True
11       inventory.close()
```

Which code should you write for line 05 and line 06?

A.
```
05   if line != '\n':
06     if line != "":
```

B.
```
05   if line != '\n':
06     if line != None:
```

C.
```
05   if line != '':
06     if line != "":
```

D.
```
05   if line != '':
06     if line != "\n":
```

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 19
You develop a Python application for your company.

You need to accept input from the user and print that information to the user screen.

You have started with the following code. Line numbers are included for reference only.

```
01 print("What is your name?")
02
03 print(name)
```

Which code should you write at line 02?

A. `name = input`
B. `input("name")`
C. `input(name)`
D. `name = input()`

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 20
You develop a Python application for your school.

You need to read and write data to a text file. If the file does not exist, it must be created. If the file has content, the content must be removed.

Which code should you use?

A. `open("local_data", "r")`
B. `open("local_data", "r+")`
C. `open("local_data", "w+")`
D. `open("local_data", "w")`

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
References: https://pythontips.com/2014/01/15/the-open-function-explained/