

1. TRUE / FALSE QUESTIONS

- _____ You can have more than one except clause in a `try/except` statement.
- _____ The `ZeroDivisionError` exception is raised when the program attempts to perform the calculation x/y if $y = 0$.
- _____ An exception handler is a piece of code that is written using the `try/except` statement.
- _____ The `else` suite in a `try/except` statement executes only if a statement in the `try` suite raises an exception.
- _____ The `finally` suite in a `try/except` statement executes only if no exceptions are raised by statements in the `try` suite.
- _____ Lists in Python are immutable.
- _____ The index of the first element in a list is 1, the index of the second element is 2, and so forth.
- _____ The index -1 identifies the last element in a list.
- _____ In slicing, if the end index specifies a position beyond the end of the list, Python will use the length of the list instead.

2. COMPLETION QUESTIONS: Fill in the blanks.

- a) A(n) _____ block includes one or more statements that can potentially raise an exception.
- b) The built-in function _____ returns the length of a sequence.
- c) A(n) _____ is a span of items that are taken from a sequence.
- d) Lists are _____, which means their elements can be changed in a program.
- e) The _____ exception is raised when a search item is not in the list being searched.

ALGORITHM WORKBENCH QUESTIONS

- a) What will the following code display?

```
try:
    x = float('abc123')
    print('The conversion is complete.')
except IOError:
    print('This code caused an IOError.')
except ValueError:
    print('This code caused a ValueError.')
print('The end.')
```

- b) Assume the `names` variable references a list of strings. Write code that determines whether 'Ruby' is in the `names` list. If it is, display the message 'Hello Ruby'. Otherwise, display the message 'No Ruby'.
- c) Assume the `numbers` variable references a list of strings. Write code that determines that determines the average of the numbers and displays the result with two digits after decimal point.

- d) What will the following code display?

```
try:
    x = float(abc123)
    print(x)
except ValueError:
    print('This code caused a ValueError.')
except TypeError:
    print('This code caused a TypeError.')
except NameError:
    print('This code caused a NameError.')
print('The end.')
```

MULTIPLE CHOICE QUESTIONS

3. What are the data items in a list called?
- a) data
 - b) elements
 - c) items
 - d) values
4. When working with multiple sets of data, one would typically use a(n)_____.
- a) list
 - b) tuple
 - c) nested list
 - d) sequence
5. This is a number that identifies an item in a list.
- a) element
 - b) index
 - c) bookmark
 - d) identifier

6. The primary difference between a tuple and a list is that
- a) you don't use commas to separate elements in a tuple
 - b) a tuple can only include string elements
 - c) a tuple cannot include lists as elements
 - d) once a tuple is created, it cannot be changed
7. Which list will be referenced by the variable `number` after the following code is executed?
- ```
number = range(0, 9, 2)
```
- a) `[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]`
  - b) `[1, 3, 5, 7, 9]`
  - c) `[2, 4, 6, 8]`
  - d) `[0, 2, 4, 6, 8]`
8. What will be the value of the variable `list` after the following code executes?
- ```
list = [1, 2]  
list = list * 3
```
- a) `[1, 2] * 3`
 - b) `[3, 6]`
 - c) `[1, 2, 1, 2, 1, 2]`
 - d) `[1, 2], [1, 2], [1, 2]`
9. Which method or operator can be used to concatenate lists?
- a) `*`
 - b) `+`
 - c) `%`
 - d) `concat`

PROGRAMS

10. Write a program that generates 1,000 random integers between 0 and 9 and displays the count for each number. Use a list of ten integers named `counts`. `counts` list will store the counts for the number of 0s, 1s, ..., 9s.
11. Write a function that returns the greatest common divisor (GCD) of any number of integers in a list sent by the caller. Use the following function header:

```
def gcd(numbers):
```

Write a test program that prompts the user to enter five numbers, invokes the function to find the GCD of these numbers. Based on the return value of `gcd` function main will displays the GCD.