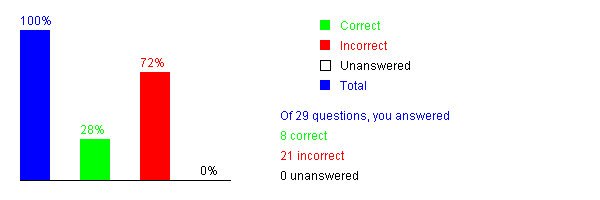
**Introduction to Programming Using Python,**[**Y. Daniel Liang**](http://www.cs.armstrong.edu/liang)

**Chapter 4 Selections**



Please send suggestions and errata to [y.daniel.liang@gmail.com](mailto:y.daniel.liang@gmail.com). Indicate which book you are using. Thanks!

*Section 4.2 Boolean Types, Values, and Expressions*

***1***  The "less than or equal to" comparison operator is \_\_\_\_\_\_\_\_\_\_.

 A. <

 B. <=

 C. =<

 D. <<

 E. !=

The correct answer is B  
Your answer is correct http://www.cs.armstrong.edu/liang/image/correct.jpg

***2***  The equal comparison operator is \_\_\_\_\_\_\_\_\_\_.

 A. <>

 B. !=

 C. ==

 D. =

The correct answer is C  
Your answer is correct http://www.cs.armstrong.edu/liang/image/correct.jpg

***3***  The word True is \_\_\_\_\_\_\_\_.

 A. a Python keyword

 B. a Boolean literal

 C. same as value 1

 D. same as value 0

The correct answer is AB  
Your answer BC is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg  
Explanation: True is a Boolean literal just like integer literal 10. True is also a keyword

*Section 4.3 Generating Random Numbers*

***4***  To generate a random integer between 0 and 5, use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 A. random.randint(0, 5)

 B. random.randint(0, 6)

 C. random.randrange(0, 5)

 D. random.randrange(0, 6)

The correct answer is AD  
Your answer BD is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

***5***  random.randint(0, 1) returns \_\_\_\_\_\_\_\_\_\_\_\_.

 A. 0

 B. 1

 C. 0 or 1

 D. 2

The correct answer is C  
Your answer is correct http://www.cs.armstrong.edu/liang/image/correct.jpg

***6***  random.random() returns \_\_\_\_\_\_\_\_\_\_\_\_.

 A. a float number i such that 0 < i < 1.0

 B. a float number i such that 0 <= i < 1.0

 C. a float number i such that 0 <= i <= 1.0

 D. a float number i such that 0 < i < 2.0

The correct answer is B  
Your answer A is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

*Sections 4.4-4.10*

***7***  Which of the following code displays the area of a circle if the radius is positive.

 A. if radius != 0: print(radius \* radius \* 4.14159)

 B. if radius >= 0: print(radius \* radius \* 4.14159)

 C. if radius > 0: print(radius \* radius \* 4.14159)

 D. if radius <= 0: print(radius \* radius \* 4.14159)

The correct answer is C  
Your answer B is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

***8***  Suppose x = 1, y = -1, and z = 1. What is the printout of the following statement?   
  
if x > 0:  
    if y > 0:  
        print("x > 0 and y > 0")  
elif z > 0:  
    print("x < 0 and z > 0")

 A. x > 0 and y > 0

 B. x < 0 and z > 0

 C. x < 0 and z < 0

 D. no printout.

The correct answer is D  
Your answer B is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

***9***  Suppose isPrime is a boolean variable, which of the following is the correct and best statement for testing if isPrime is true.

 A. if isPrime = True:

 B. if isPrime == True:

 C. if isPrime:

 D. if not isPrime = False:

 E. if not isPrime == False:

The correct answer is C  
Your answer E is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

***10***  Analyze the following code:  
  
even = False  
if even = True:   
    print("It is even!")

 A. The program has a syntax error in line 1 (even = False)

 B. The program has a syntax error in line 2 if even = True is not a correct condition. It should be replaced by if even == True: or if even:.

 C. The program runs, but displays nothing.

 D. The program runs and displays It is even!.

The correct answer is D  
Your answer A is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

***11***  Analyze the following code.  
  
even = False  
if even:  
    print("It is even!")

 A. The code displays It is even!

 B. The code displays nothing.

 C. The code is wrong. You should replace if even: with if even == True:

 D. The code is wrong. You should replace if even: with if even = True:

The correct answer is B  
Your answer C is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

***12***  The following code displays \_\_\_\_\_\_\_\_\_\_\_.  
  
temperature = 50  
  
if temperature >= 100:  
    print("too hot")  
elif temperature <= 40:  
    print("too cold")  
else:  
    print("just right")

 A. too hot

 B. too cold

 C. just right

 D. too hot too cold just right

The correct answer is C  
Your answer is correct http://www.cs.armstrong.edu/liang/image/correct.jpg

***13***  Analyze the following code:  
  
Code 1:  
  
if number % 2 == 0:   
    even = True  
else:   
    even = False  
  
Code 2:  
  
even = number % 2 == 0

 A. Code 1 has compile errors.

 B. Code 2 has compile errors.

 C. Both Code 1 and Code 2 have compile errors.

 D. Both Code 1 and Code 2 are correct, but Code 2 is better.

The correct answer is D  
Your answer is correct http://www.cs.armstrong.edu/liang/image/correct.jpg

***14***  Suppose income is 4001, what is the output of the following code:  
  
if income > 3000:  
    print("Income is greater than 3000")  
elif income > 4000:  
    print("Income is greater than 4000")

 A. no output

 B. Income is greater than 3000

 C. Income is greater than 3000 followed by Income is greater than 4000

 D. Income is greater than 4000

 E. Income is greater than 4000 followed by Income is greater than 3000

The correct answer is B  
Your answer is correct http://www.cs.armstrong.edu/liang/image/correct.jpg

***15***  The \_\_\_\_\_\_\_\_\_\_ function immediately terminates the program.

 A. sys.terminate()

 B. sys.halt()

 C. sys.exit()

 D. sys.stop()

The correct answer is C  
Your answer D is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

*Section 4.11 Logical Operators*

***16***  Which of the Boolean expressions below is incorrect?

 A. True and 3 => 4

 B. !(x > 0) and (x > 0)

 C. (x > 0) or (x < 0)

 D. (x != 0) or (x = 0)

 E. (-10 < x < 0)

The correct answer is ABD  
Your answer B is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg  
Explanation: a: (3 => 4) should be (3 >= 4), b: !(x > 0) should be not (x > 0) d: (x = 0) should be (x == 0)

***17***  Which of the following is the correct expression that evaluates to True if the number x is between 1 and 100 or the number is negative?  
  
21. To check whether a char variable ch is an uppercase letter, you write \_\_\_\_\_\_\_\_\_\_\_.

 A. (ch >= 'A' and ch >= 'Z')

 B. (ch >= 'A' and ch <= 'Z')

 C. (ch >= 'A' or ch <= 'Z')

 D. ('A' <= ch <= 'Z')

The correct answer is BD  
Your answer B is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

***18***  Assume x = 4 and y = 5, Which of the following is true?

 A. x < 5 and y < 5

 B. x < 5 or y < 5

 C. x > 5 and y > 5

 D. x > 5 or y > 5

The correct answer is B  
Your answer is correct http://www.cs.armstrong.edu/liang/image/correct.jpg

***19***  Assume x = 4 and y = 5, Which of the following is true?

 A. not (x == 4)

 B. x != 4

 C. x == 5

 D. x != 5

The correct answer is D  
Your answer B is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

***20***  Assume x = 4 and y = 5, Which of the following is true?

 A. not (x == 4)

 B. x != 4

 C. x == 5

 D. x != 5

The correct answer is D  
Your answer B is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

***21***  Which of the following is equivalent to x != y?

 A. not (x == y)

 B. x > y and x < y

 C. x > y or x < y

 D. x >= y or| x <= y

The correct answer is AC  
Your answer B is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

***22***  What is the output of the following code?  
  
ch = 'F'  
if ch >= 'A' and ch <= 'Z':  
    print(ch)

 A. F

 B. f

 C. nothing

 D. F f

The correct answer is A  
Your answer B is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

*Section 4.14 Conditional Expressions*

***23***  What is y after the following statement is executed?  
  
x = 0  
y = 10 if x > 0 else -10

 A. -10

 B. 0

 C. 10

 D. 20

 E. Illegal expression

The correct answer is A  
Your answer B is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

***24***  Analyze the following code fragments that assign a boolean value to the variable even.  
  
Code 1:   
if number % 2 == 0:  
    even = True  
else:   
    even = False  
  
Code 2:   
even = True if number % 2 == 0 else False  
  
Code 3:  
even = number % 2 == 0

 A. Code 2 has a syntax error, because you cannot have True and False literals in the conditional expression.

 B. Code 3 has a syntax error, because you attempt to assign number to even.

 C. All three are correct, but Code 1 is preferred.

 D. All three are correct, but Code 2 is preferred.

 E. All three are correct, but Code 3 is preferred.

The correct answer is E  
Your answer C is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg  
Explanation: Code 3 is the simplest. Code 1 and Code 2 contain redundant code.

***25***  What is the output of the following code?  
  
isCorrect = False  
print("Correct" if isCorrect else "Incorrect")

 A. Correct

 B. Incorrect

 C. nothing

 D. Correct Incorrect

The correct answer is B  
Your answer C is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

*Section 4.15 Operator Precedence and Associativity*

***26***  The order of the precedence (from high to low) of the operators +, \*, and, or is:

 A. and, or, \*, +

 B. \*, +, and, or

 C. \*, +, and, or

 D. \*, +, or, and

 E. or, and, \*, +

The correct answer is C  
Your answer is correct http://www.cs.armstrong.edu/liang/image/correct.jpg

***27***  Which of the following operators are right-associative.

 A. \*

 B. +

 C. %

 D. and

 E. =

The correct answer is E  
Your answer C is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg

***28***  What is the value of the following expression?  
True or True and False

 A. True

 B. False

The correct answer is A  
Your answer B is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg  
Explanation: and has higher precedence than or, so and is evaluated first.

***29***  Which of the following statements are True?

 A. (x > 0 and x < 10) is same as (x > 0 and x < 10)

 B. (x > 0 or x < 10) is same as (0 < x < 10)

 C. (x > 0 or x < 10 and y < 0) is same as (x > 0 or (x < 10 and y < 0))

 D. (x > 0 or x < 10 and y < 0) is same as ((x > 0 or x < 10) and y < 0)

The correct answer is AC  
Your answer C is incorrect http://www.cs.armstrong.edu/liang/image/wrong.jpg