Directions:

a. DO NOT OPEN YOUR EXAM BOOKLET UNTIL YOU HAVE BEEN TOLD TO BEGIN.

b. This exam booklet contains 25 questions, each of which will be weighted equally. The exam is worth 100 points (10% of your course grade).

c. You may use one 8.5" x 11" note sheet and a paper dictionary during the examination. No calculating devices or other reference materials may be used during the examination.

d. Questions will not be interpreted during the examination.

e. You should choose the single best alternative for each question, even if you believe that a question is ambiguous or contains a typographic error. If a question has more than one correct answer, full credit will be awarded for any correct answer.

f. Please fill in the requested information at the top of this exam booklet.

g. Use a #2 pencil to encode any information on the OMR form.

h. Please encode the following on the OMR form:

   -- Last name and first initial
   -- MSU PID
   -- Exam form (1 X)

i. Please sign the OMR form.

j. Only answers recorded on your OMR form will be counted for credit. Completely erase any responses on the OMR form that you wish to delete.

k. You must turn in this exam booklet and the OMR form when you have completed the exam. When leaving, please be courteous to those still taking the exam.

********************************************************************************
*  Exam Key                                                                    *
*                                                                              *
*  01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 *
*   C  B  C  A  E  C  B  C  E  E  B  B  D  B  E  B  D  A  A  D  A  A  D  D *
********************************************************************************
# Figure 1 #

```python
X = 7
Y = 2
Z = 6

print(Z + X // Y)  # Line 1
print(X % 5 * Y)    # Line 2
print(3 + Z ** Y)   # Line 3
print(X / Y + Z)    # Line 4
```

01. Which of the following statements about the Python code labeled "Line 1" in Figure 1 is correct?

A) It will display 6 when the program is executed.
B) It will display 6.5 when the program is executed.
C) It will display 9 when the program is executed.
D) It will display 9.5 when the program is executed.
E) None of the above.

02. Which of the following statements about the Python code labeled "Line 2" in Figure 1 is correct?

A) It will display 7 when the program is executed.
B) It will display 4 when the program is executed.
C) It will display 2 when the program is executed.
D) It will display 0 when the program is executed.
E) None of the above.

03. Which of the following statements about the Python code labeled "Line 3" in Figure 1 is correct?

A) It will display 15 when the program is executed.
B) It will display 18 when the program is executed.
C) It will display 39 when the program is executed.
D) It will display 81 when the program is executed.
E) None of the above.

04. Which of the following statements about the Python code labeled "Line 4" in Figure 1 is correct?

A) It will display 9.5 when the program is executed.
B) It will display 9 when the program is executed.
C) It will display 0.875 when the program is executed.
D) It will display 0 when the program is executed.
E) None of the above.

05. Which of the following statements is not valid Python?

A) print( str(1.325) )
B) print( int(-5.9) )
C) print( float("1.5e-8") )
D) print( str(618) )
E) print( int("2.7") )
A = 2.5
B = 10.0
C = 6
D = 3

print( float( C//4 ) )       # Line 1
print( C > 8 or A < 15.9 )   # Line 2
print( A <= D and B < -C )   # Line 3
print( 10 < 2*C < 20 )       # Line 4

06. Which of the following statements about the Python code labeled "Line 1" in Figure 2 is correct?

A) It contains a syntax error.
B) It will display 1 when the program is executed.
C) It will display 1.0 when the program is executed.
D) It will display 1.5 when the program is executed.
E) None of the above.

07. Which of the following statements about the Python code labeled "Line 2" in Figure 2 is correct?

A) It contains a syntax error.
B) It will display False when the program is executed.
C) It will display True when the program is executed.
D) It will display 15.9 when the program is executed.
E) None of the above.

08. Which of the following statements about the Python code labeled "Line 3" in Figure 2 is correct?

A) It contains a syntax error.
B) It will display False when the program is executed.
C) It will display True when the program is executed.
D) It will display -6 when the program is executed.
E) None of the above.

09. Which of the following statements about the Python code labeled "Line 4" in Figure 2 is correct?

A) It contains a syntax error.
B) It will display False when the program is executed.
C) It will display True when the program is executed.
D) It will display 20 when the program is executed.
E) None of the above.

10. Which of the following statements is correct?

A) The integer value 0 is equivalent to the Boolean value True.
B) The string value "25" is equivalent to the Boolean value False.
C) The integer value 1 is equivalent to the Boolean value False.
D) The string value "" is equivalent to the Boolean value True.
E) The integer value -1 is equivalent to the Boolean value True.
A = 0
B = 0
C = 0
D = 0

while (A < 6):
    D = D + 1
    if (D%3 == 0):
        B = B + 1
    elif (D%3 == 1):
        C = C + 1
    A = A + 2

print( A )  # Line 1
print( B )  # Line 2
print( C )  # Line 3
print( D )  # Line 4

11. Which of the following statements about the Python code labeled "Line 1" in Figure 3 is correct?
   A) It will display 0 when the program is executed.
   B) It will display 1 when the program is executed.
   C) It will display 2 when the program is executed.
   D) It will display 3 when the program is executed.
   E) None of the above.

12. Which of the following statements about the Python code labeled "Line 2" in Figure 3 is correct?
   A) It will display 0 when the program is executed.
   B) It will display 1 when the program is executed.
   C) It will display 2 when the program is executed.
   D) It will display 3 when the program is executed.
   E) None of the above.

13. Which of the following statements about the Python code labeled "Line 3" in Figure 3 is correct?
   A) It will display 0 when the program is executed.
   B) It will display 1 when the program is executed.
   C) It will display 2 when the program is executed.
   D) It will display 3 when the program is executed.
   E) None of the above.

14. Which of the following statements about the Python code labeled "Line 4" in Figure 3 is correct?
   A) It will display 0 when the program is executed.
   B) It will display 1 when the program is executed.
   C) It will display 2 when the program is executed.
   D) It will display 3 when the program is executed.
   E) None of the above.
A = 17
B = 0
C = 0
D = 0

while (A>=3):
    B += 1
    if (A//3*3 == A):
        C += 1
    else:
        D += 1
    A -= 4

print( A )   # Line 1
print( B )   # Line 2
print( C )   # Line 3
print( D )   # Line 4

15. Which of the following statements about the Python code labeled "Line 1" in Figure 4 is correct?
   A) It will display 0 when the program is executed.
   B) It will display 1 when the program is executed.
   C) It will display 2 when the program is executed.
   D) It will display 3 when the program is executed.
   E) None of the above.

16. Which of the following statements about the Python code labeled "Line 2" in Figure 4 is correct?
   A) It will display 0 when the program is executed.
   B) It will display 1 when the program is executed.
   C) It will display 2 when the program is executed.
   D) It will display 3 when the program is executed.
   E) None of the above.

17. Which of the following statements about the Python code labeled "Line 3" in Figure 4 is correct?
   A) It will display 0 when the program is executed.
   B) It will display 1 when the program is executed.
   C) It will display 2 when the program is executed.
   D) It will display 3 when the program is executed.
   E) None of the above.

18. Which of the following statements about the Python code labeled "Line 4" in Figure 4 is correct?
   A) It will display 0 when the program is executed.
   B) It will display 1 when the program is executed.
   C) It will display 2 when the program is executed.
   D) It will display 3 when the program is executed.
   E) None of the above.
A = "And now for something completely different."
B = "And not too expensive!"
C = len(A) < len(B)
D = A < B

print( C, D )  # Line 1
E = "We shall find you a shrubbery."
print( E[5], E[-2] )  # Line 2
F = "An African or European swallow?"
print( F[3:] )  # Line 3
print( F[:4] )  # Line 4

19. What will be displayed when the Python code labeled "Line 1" in Figure 5 is executed?
   A) False False  
   B) False True  
   C) True False  
   D) True True  
   E) None of the above.

20. What will be displayed when the Python code labeled "Line 2" in Figure 5 is executed?
   A) a y  
   B) h r  
   C) a you  
   D) shrubbery. a  
   E) None of the above.

21. What will be displayed when the Python code labeled "Line 3" in Figure 5 is executed?
   A) or  
   B) European  
   C) African or European swallow?  
   D) African or European swallow?  
   E) None of the above.

22. What will be displayed when the Python code labeled "Line 4" in Figure 5 is executed?
   A) An A  
   B) An Af  
   C) low?  
   D) llow?  
   E) None of the above.
try:
    input_file = open( "infile.txt", "r" )
    output_file = open( "outfile.txt", "w" )
except IOError:
    print( "Here!" )   # Line 1

23. Consider the Python code shown in Figure 6. Under what circumstances will the program display "Here!" (the output produced by Line 1)?

A) When the file "infile.txt" does not exist.
B) When the file "outfile.txt" does not exist.
C) When the file "outfile.txt" exists, but is not empty.
D) All of the above.
E) None of the above.

def F( X, Y ):     # Line 1
    X -= 2
    Y *= X
    return X + Y

A = 4
B = 7
C = F( A, B )      # Line 2
print( A, B, C )   # Line 3

24. Which of the following statements about the Python code shown in Figure 7 is correct?

A) The statement labeled "Line 1" contains a function parameter.
B) The statement labeled "Line 2" contains a function invocation.
C) The statement labeled "Line 2" contains a function argument.
D) All of the above.
E) None of the above.

25. What will be displayed when the Python code labeled "Line 3" in Figure 7 is executed?

A) 2 14 11
B) 2 14 16
C) 4 7 11
D) 4 7 16
E) None of the above.