Directions:

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

b. This exam booklet contains 30 questions, each of which will be weighted equally. The exam is worth 150 points (15% 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. You may not ask questions once the examination has begun.

If there is a structural problem with your exam booklet, such as a missing page or poorly printed page, please bring your exam booklet to the proctor.

If you believe that a question is ambiguous or contains a typographic error, write your interpretation of the question on the same page as the question, then put a note on the cover sheet of your exam booklet.

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 your OMR form (bubble sheet).

h. Please encode the following on the OMR form:

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

i. 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.

j. 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.

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* Exam Key                                                                 *
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*  01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 *
*   A  D  B  C  A  B  D  B  D  C  B  D  E  D  C  B  E  C  A  D  B  E  C  E *
*                                                                           *
*  25 26 27 28 29 30                                                       *
*   C  A  A  E  C  D                                                        *
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Figure 1

```python
P = 5
Q = 13
R = 9.7

print( Q // P % 3 )    # Line 1
print( Q + 3 / P )     # Line 2
print( 5 < int(R) < 10 )         # Line 3
print( 3*P == Q or 14 or 15 )    # Line 4
print( Q > 10 and 5*P < 20 )     # Line 5
```

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

A) It will display 2 when the program is executed.
B) It will display 2.6 when the program is executed.
C) It will display 6 when the program is executed.
D) It will display 6.5 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 3 when the program is executed.
B) It will display 3.2 when the program is executed.
C) It will display 13 when the program is executed.
D) It will display 13.6 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 False when the program is executed.
B) It will display True when the program is executed.
C) It will display 9 when the program is executed.
D) It will display 10 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 False when the program is executed.
B) It will display True when the program is executed.
C) It will display 14 when the program is executed.
D) It will display 15 when the program is executed.
E) None of the above.

05. Which of the following statements about the Python code labeled "Line 5" in Figure 1 is correct?

A) It will display False when the program is executed.
B) It will display True when the program is executed.
C) It will display 20 when the program is executed.
D) It will display 25 when the program is executed.
E) None of the above.
A, B, C, D = 0, 0, 0, 0

while A < 20:
    if A%3 == 0:
        A += 4
        B += 1
    elif A%2 == 0:
        A += 3
        C += 1
    else:
        A += 2
        D += 1

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

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

A) It will display 20 when the program is executed.
B) It will display 21 when the program is executed.
C) It will display 22 when the program is executed.
D) It will display 23 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 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.

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

09. Which of the following statements about the Python code labeled "Line 4" in Figure 2 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, B, C = 0, 0, 0

for D in range( 5, 20, 3 ):
    if D//2*2 == D:
        A += 1
    if D//4*4 == D:
        B += 1
    else:
        C += 1

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

10. 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.

11. 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.

12. 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.

13. Which of the following statements about the Python code labeled "Line 4" in Figure 3 is correct?
   A) It will display 20 when the program is executed.
   B) It will display 21 when the program is executed.
   C) It will display 22 when the program is executed.
   D) It will display 23 when the program is executed.
   E) None of the above.
A, B, C = 0, 0, 0

D = 19

while D > 4:
    D -= 3
    if D%3 == 0:
        break
    elif D%2 == 0:
        A += 1
        continue
    B += 1
else:
    C += 1

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

14. 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.

15. 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.

16. 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.

17. 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 = "Bluebird"
B = "Blueberry"
C = "fragmented"

print( A>B, B>C )           # Line 1
print( C[4], C[-3] )        # Line 2
print( C[2:4], C[6:8] )     # Line 3
print( C[-5:], C[:3] )       # Line 4
print( C[::-2], C[::3] )    # Line 5

18. Which of the following statements about the Python code labeled "Line 1" in Figure 5 is correct?
   A) It will display False False when the program is executed.
   B) It will display False True when the program is executed.
   C) It will display True False when the program is executed.
   D) It will display True True when the program is executed.
   E) None of the above.

19. Which of the following statements about the Python code labeled "Line 2" in Figure 5 is correct?
   A) It will display m t when the program is executed.
   B) It will display g t when the program is executed.
   C) It will display m n when the program is executed.
   D) It will display g n when the program is executed.
   E) None of the above.

20. Which of the following statements about the Python code labeled "Line 3" in Figure 5 is correct?
   A) It will display rag ent when the program is executed.
   B) It will display ra en when the program is executed.
   C) It will display agm nte when the program is executed.
   D) It will display ag nt when the program is executed.
   E) None of the above.

21. Which of the following statements about the Python code labeled "Line 4" in Figure 5 is correct?
   A) It will display fragm ted when the program is executed.
   B) It will display ented fragmen when the program is executed.
   C) It will display frag nted when the program is executed.
   D) It will display nted fragme when the program is executed.
   E) None of the above.

22. Which of the following statements about the Python code labeled "Line 5" in Figure 5 is correct?
   A) It will display ed fra when the program is executed.
   B) It will display ted frag when the program is executed.
   C) It will display fragment ted when the program is executed.
   D) It will display fragmente nted when the program is executed.
   E) None of the above.
import string
A, B, C = 0, 0, 0
for ch in "Arthur, Britain’s King":
    if ch in "aeiou":
        A += 1
    if ch not in string.ascii_letters:
        B += 1
    else:
        C += 1
print( A )    # Line 1
print( B )    # Line 2
print( C )    # Line 3

23. Which of the following statements about the Python code labeled "Line 1" in Figure 6 is correct?
   A) It will display 0 when the program is executed.
   B) It will display 4 when the program is executed.
   C) It will display 5 when the program is executed.
   D) It will display 6 when the program is executed.
   E) None of the above.

24. Which of the following statements about the Python code labeled "Line 2" in Figure 6 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.

25. Which of the following statements about the Python code labeled "Line 3" in Figure 6 is correct?
   A) It will display 0 when the program is executed.
   B) It will display 15 when the program is executed.
   C) It will display 18 when the program is executed.
   D) It will display 22 when the program is executed.
   E) None of the above.

26. What will be displayed when the following Python code is executed?
    for n in range( 1, 5 ):
        print( n, sep=",", end=".")
    print()
   A) 1.2.3.4.
   B) 1, 2, 3, 4.
   C) 1.2.3.4.5.
   D) 1, 2, 3, 4, 5.
   E) None of the above.
# Figure 7 #
out = open( "midterm.txt", "w" )
for n in range( 4 ):
    print( "Line", n, file=out )
print( "Done!" )

27. After the Python code in Figure 7 executes, which of the following statements about file "midterm.txt" is correct? Assume the call to function "open" does not cause an exception.

A)  The file contains 0 characters.
B)  The file contains 20 characters.
C)  The file contains 24 characters.
D)  The file contains 28 characters.
E)  The file contains 34 characters.

# Figure 8 #
value = int( input( "Value:" ) )
try:
    print( "Result=", end="" )
    result = 20 / value
    print( result, end="" )
except:
    print( "Error", end="" )
print()

28. Consider the Python code in Figure 8. What will be displayed when the program is executed and the user pushes the A key, followed by the Enter key?

A)  Result=
B)  Result=4
C)  Result=4.0
D)  Result=Error
E)  None of the above.

29. Consider the Python code in Figure 8. What will be displayed when the program is executed and the user pushes the 5 key, followed by the Enter key?

A)  Result=
B)  Result=4
C)  Result=4.0
D)  Result=Error
E)  None of the above.

30. Consider the Python code in Figure 8. What will be displayed when the program is executed and the user pushes the 0 key, followed by the Enter key?

A)  Result=
B)  Result=4
C)  Result=4.0
D)  Result=Error
E)  None of the above.