Computer Science 217

547

Midterm Exam #2

Fall 2026

November 16, 2026

First Name: _____

Last Name: _____

ID: _____

Instructions:

- Neatly print your names and ID number in the spaces above.
- Neatly print your names and ID number on the provided bubble sheet and shade the bubbles for your ID number.
- Record your answers for all of the multiple-choice questions on the bubble sheet.
- Ensure that any errors made when recording answers on the bubble sheet are erased completely. Replacement bubble sheets are available if you are unable to completely erase your unwanted response.
- Select the **best answer** for each multiple-choice question.
- This exam consists of 8 pages, including the cover. Before answering any questions, verify that all of the pages are present.
- You have 40 minutes to complete this exam. Extra time will **not** be provided to record your answers on the bubble sheet. Ensure that all of your answers have been recorded before the time limit is reached. Only answers that are recorded on the bubble sheet will be graded.
- Each question is worth one mark unless indicated otherwise.
- This is a closed-book exam. You are not permitted to use any electronic devices or reference materials. Students are not permitted to bring blank paper into the exam.
- Double-check that you shaded the bubbles for your ID number correctly on the bubble sheet.
- **DO NOT TURN PAST THIS PAGE UNTIL YOU ARE INSTRUCTED TO BEGIN.**

Record the answers to the questions on this page on the provided bubble sheet.
Answers recorded in this question booklet will NOT be graded.

1. Which of the following statements is most correct about loops in Python?
   A. All Python loops are post-tested.
   B. A while loop must include a relational operator in its condition.
   C. A for loop's control variable must be a single lowercase letter.
   D. A for loop must be used when the number of times the loop will execute is known in advance.
   E. None of the above statements is correct.

2. Consider the following program:

```
result = 0
for i in range(5, 1):
  result = result + i
print(result)
```

   What is displayed when it executes?
   A. 14
   B. Nothing is displayed.
   C. An error message is displayed.
   D. 15
   E. 0

3. Consider the following program:

```
for i in range(5):
  for j in range(7):
    print(i + j)
```

   How many lines of output are displayed when it executes?
   A. 30
   B. 24
   C. 35
   D. 28
   E. 12

4. Which of the following is a valid / legal Python keyword but its use is often discouraged in introductory computer science courses because it is considered poor form by many programmers?
   A. repeat
   B. func
   C. do
   D. break
   E. accept

5. Consider the following program which is supposed to sum all of the even integers entered by the user until a blank line is entered. If any odd integers are entered by the user, then an error message should be displayed instead of including the integer in the total.

```
total = 0
line = input("Enter an even integer (blank to quit):")

while line != "":
  while int(line) % 2 != 0:
    print("That wasn't an even integer.")
    line = input("Enter an even integer (blank to quit):")

  total = total + int(line)
  line = input("Enter an even integer (blank to quit):")

print(f"The total of those numbers is {total}.")
```

Much of the time, the program works as intended, but sometimes it crashes with a ValueError. Which sequence of inputs will cause the program to crash? (Assume each value is entered on its own line in response to the program's prompt.)

A. 2, 2, 1, <blank line>
B. <blank line>
C. 2, 1, 0, <blank line>
D. 2, 1, 1, 2, <blank line>
E. 2, <blank line>

6. Consider the following program:

```
i = 3
total = 0

while i > 0:
  j = 0
  while j < i:
    total = total + 1
    j = j + 1
  i = i - 1

print(total)
```

What is displayed when it executes?

A. 9
B. 6
C. 3
D. 10
E. 12

7. Consider the following program:

```
count = 0
j = 1

while j < 4:
  for i in range(j):
    count = count + i
    print(f"{j} {count}")
  j = j + 1

print(count)
```

What value is printed when it executes?

A. 16
B. 20
C. 4
D. 10
E. None of the above answers is correct

8. Which of the following statements is most correct about Python functions?
   A. The comment that appears ahead of a function's definition should clearly describe the purpose of every local variable within the function.
   B. A function should not be written to solve any problem where the solution is less than 20 lines of code.
   C. Programmers are discouraged from writing functions that call other functions.
   D. A programmer should write all of the functions needed to solve a problem before running any of them.
   E. A good function allows the programmer to call it without understanding the function's internal details.

9. Which of the following statements is most correct about Python functions?
   A. The return keyword must appear at least once in the body of a function.
   B. Every function definition must include at least one parameter variable.
   C. The name of a function must begin with a letter, underscore or digit.
   D. If a default value is provided for any parameter variable, then a default value must be provided for all of the parameter variables.
   E. None of the above statements are correct.

Record the answers to the questions on this page on the provided bubble sheet.
Answers recorded in this question booklet will NOT be graded.

10. Consider the following program. It is supposed to report the weight limit for a ladder based on its CSA grade. Assume that grade is always an integer greater than or equal to 1 and less than or equal to 3.

```
def capacity(grade):
  if grade == 1:
    limit = 250
  elif grade == 2:
    limit = 225
  elif grade == 3:
    limit = 200

  _____________________________________

ladder_grade = int(input("Enter the ladder's grade: "))
weight_limit = capacity(ladder_grade)
print(f"A grade {ladder_grade} ladder can support {weight_limit} lbs.")
```

What statement should be placed on the blank so that it accomplishes this task?

A. weight_limit = limit
B. return limit
C. return grade
D. print(limit)
E. return weight_limit

11. Consider the following program:

```
def f(x):
  x = "Hello"

x = 0
f(x)
print(x)
```

What happens when this program executes?

A. The program prints 0 followed by Hello
B. The program prints Hello
C. The program prints Hello followed by 0
D. The program prints 0
E. The program crashes with a type error

Consider the following code segment for questions 12 and 13:

```
def f(a, b):
  c = a + b
  d = g(c)
  return d

def g(d):
  e = 2 * d
  return e

def main():
  h = 4
  i = 5
  j = f(h, i)
  print(f"j is {j}")

main()
```

12. What are the arguments in the preceding code segment?
    A. 4, 5 and 2
    B. c, d, e, h, i, and j
    C. c, h and i
    D. a, b and d
    E. f, g and main

13. What value is printed when the preceding code segment executes?
    A. 9
    B. 0
    C. 18
    D. 27
    E. Nothing is displayed.

14. Consider a function that reports the distance between two points, each of which consists of an x-coordinate and a y-coordinate. The function must allow a programmer calling it to provide either both end points of the line, or only one end point (in which case the other end point's value defaults to (0, 0)). Which definition line should be used for such a function?
    A. def dist(x1, y1, x2, y2):
    B. def dist(x1=0, y1=0, x2=0, y2=0):
    C. def dist(x1, y1, x2=0, y2=0):
    D. def dist(x1, y1=0, x2=0, y2):
    E. def dist(x1=0, y1=0, x2, y2):

Record the answers to the questions on this page on the provided bubble sheet.
Answers recorded in this question booklet will NOT be graded.

15. Consider the following list:

    items = ["W", "X", "Y", "Z"]

    Which of the following statements displays Z?
    A. print(items["Z"])
    B. print(items[len(items)])
    C. print(items[-1])
    D. More than one of the above answers is correct.
    E. None of the above answers are correct.

16. Which of the following is **not** a method that can be applied to a list in Python?
    A. index
    B. pop
    C. append
    D. remove
    E. in

17. Consider the following program:

```
values = ["q", "w", "e", "r", "t", "y"]

for i in range(len(values)):
  values[i // 2] = values[i]

print(values)
```

    What is displayed when the program executes?
    A. ['y', 'y', 'y', 'r', 't', 'y']
    B. ['q', 'e', 't', 'r', 't', 'y']
    C. ['w', 'r', 'y', 'r', 't', 'y']
    D. A list index out of range error is displayed.
    E. ['w', 'e', 'r', 't', 'y', 'y']

18. Which of the following statements is most correct about lists in Python?
    A. All elements stored in a list must be values of the same type.
    B. The elements in a list can only be integers, floating-point numbers, strings and Boolean values.
    C. Any number can be used as the index for an element in a list.
    D. A list can be passed to a function as an argument.
    E. Lists always contain one or more elements.

19. Consider the following program:

```
values = [0, 2, 4, 6]

for i in range(1, 5):
  values.insert(i, i * 2 - 1)

print(values)
```

What is displayed when it executes?

A. [0, 1, 2, 3, 4, 5, 6, 7, 9]
B. [0, 1, 3, 5, 7, 2, 4, 6]
C. A list index out of range error is displayed.
D. [0, 1, 3, 5, 7, 9, 2, 4, 6]
E. [0, 1, 2, 3, 4, 5, 6, 7]

20. Consider the following code segment:

```
board = [[" ", " ", " ", " ", " "],
         [" ", " ", " ", "X", " "],
         [" ", " ", " ", " ", " "]]

print(len(board))
```

What value is displayed when this code is executed?

A. 5
B. 0
C. 3
D. 15
E. 8

21. Consider the board in the previous question. Which of the following statements will display X?

A. print(board[2,4])
B. print(board[3][1])
C. print(board[1][3])
D. print(board[1:3])
E. print(board[3,1])