Algorithms and Programming Questions Part 2

DIRECTIONS: Each of the questions or incomplete statements below is followed by four suggested answers or completions. Select the one that is best in each case.

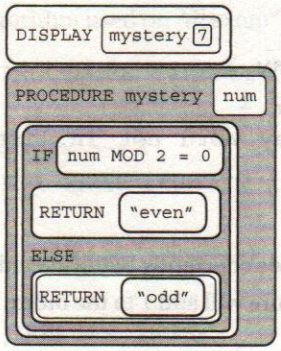
59. What will the following call to the procedure "mystery" display?

```
DISPLAY(mystery(4))

Line 1:  PROCEDURE mystery(num)
Line 2:  {
Line 3:    IF(num MOD 2 = 0)
Line 4:    {
Line 5:      RETURN ("even")
Line 6:    }
Line 7:    ELSE
Line 8:    {
Line 9:      RETURN("odd")
Line 10:   }
Line 11: }
```

(A) even
(B) odd
(C) True
(D) False

60. What will the following call to the procedure "mystery" display?



(A) even
(B) odd
(C) True
(D) False

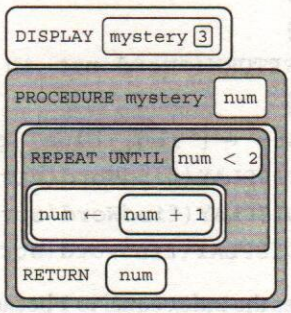
61. What will the following call to the procedure "mystery" display?

```
DISPLAY(mystery(3))

Line 1:  PROCEDURE mystery(num)
Line 2:  {
Line 3:    REPEAT UNTIL(num < 2)
Line 4:    {
Line 5:      num ← num - 1
Line 6:    }
Line 7:    RETURN(num)
Line 8:  }
```

(A) 0
(B) 1
(C) 2
(D) Nothing is returned due to an infinite loop.

62. What will the following call to the procedure "mystery" display?



(A) 0
(B) 1
(C) 2
(D) Nothing is returned due to an infinite loop.

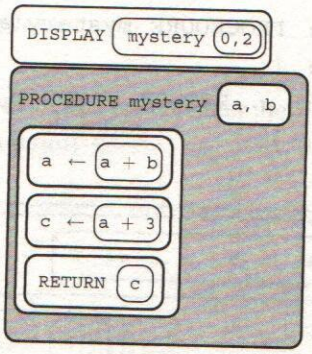
63. What will the following call to the procedure "mystery" display?

```
DISPLAY(mystery(2, 4))

Line 1:  PROCEDURE mystery(a, b)
Line 2:  {
Line 3:    a ← a + b
Line 4:    c ← a + 3
Line 5:    RETURN(c)
Line 6:  }
```

(A) 2 4
(B) 2 4 5
(C) 9
(D) 6

64. What will the following call to the procedure "mystery" display?



(A) 0 2
(B) 2 4 5
(C) 2
(D) 5

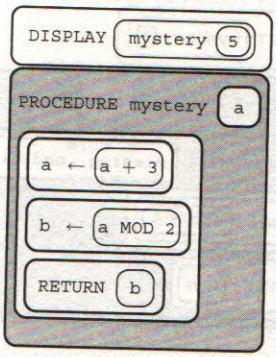
65. What will the following call to the procedure "mystery" display?

```
DISPLAY(mystery(2, 0))

Line 1:  PROCEDURE mystery(a, b)
Line 2:  {
Line 3:    a ← a + b
Line 4:    c ← a + 3
Line 5:    RETURN(c)
Line 6:  }
```

(A) 0 2
(B) 2 4 5
(C) 2
(D) 5

66. What will the following call to the procedure "mystery" display?



(A) 0
(B) 2 4 5
(C) 2
(D) 5

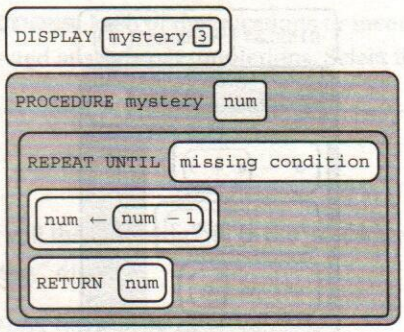
67. What will the following call to the procedure "mystery" display?

```
DISPLAY(mystery(5))

Line 1:  PROCEDURE mystery(a)
Line 2:  {
Line 3:    a ← (a + a) / 5
Line 4:    b ← a MOD 6
Line 5:    RETURN(b)
Line 6:  }
```

(A) 0
(B) 2 4 5
(C) 2
(D) 5

68. The following call to the procedure "mystery" is intended to display the number 2.



Which of the following can be used to replace <missing condition> so that the procedure will work as intended?

(A) (num < 2)
(B) (num > 2)
(C) (num < 3)
(D) (num > 3)

69. The following call to the procedure "mystery" is intended to display the number 6.

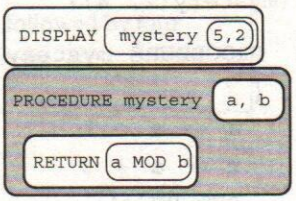
```
DISPLAY(mystery(3))

Line 1:  PROCEDURE mystery(num)
Line 2:  {
Line 3:    REPEAT UNTIL <MISSING
CONDITION>
Line 4:    {
Line 5:      num ← num + 1
Line 6:    }
Line 7:    RETURN(num)
Line 8:  }
```

Which of the following can be used to replace <MISSING CONDITION> so that the procedure will work as intended?

(A) (num < 3)
(B) (num > 3)
(C) (num < 6)
(D) (num > 5)

70. What will the following call to the procedure "mystery" display?



(A) 0
(B) 1
(C) 2
(D) 3

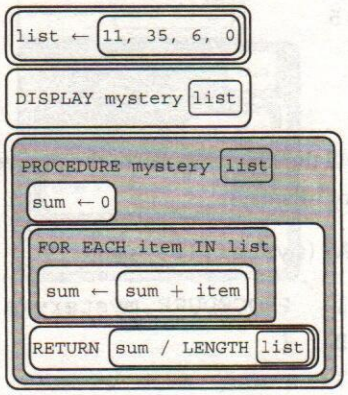
71. What will the following call to the procedure "mystery" display?

```
DISPLAY(mystery(2, 5))

Line 1: PROCEDURE mystery(a, b)
Line 2: {
Line 3:    RETURN a MOD b
Line 4: }
```

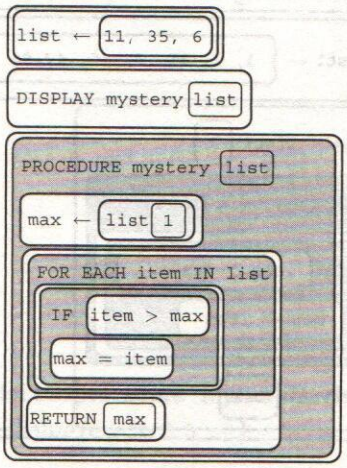
(A) 0
(B) 1
(C) 2
(D) 3

72. What will the following program display?



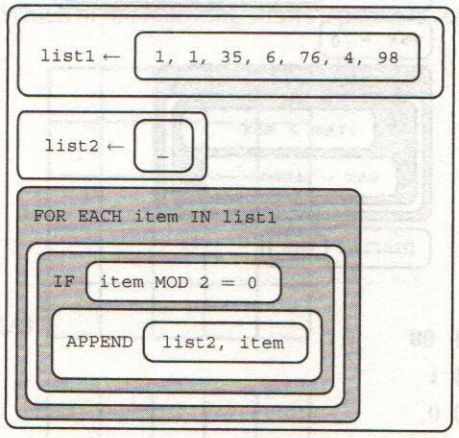
(A) 0
(B) 4
(C) 13
(D) 35

73. What will the following program display?



(A) 0
(B) 12
(C) 16
(D) 35

74. What does `list2` contain after the program is run?



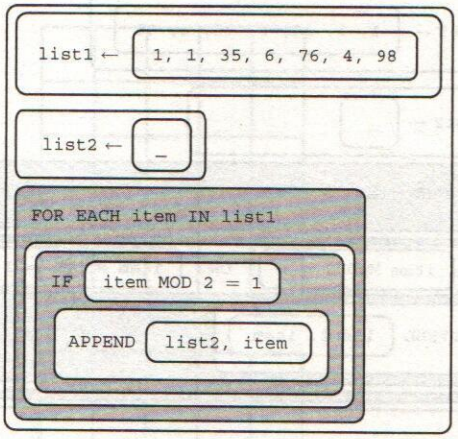
(A) [6, 76, 4, 98]
(B) [1, 1, 35]
(C) [1, 1, 35, 6, 76, 4, 98]
(D) [ ]

75. What will the following program display?

```
Line 1:   list ← [11, 35, 6, 2]
Line 2:   DISPLAY(mystery(list))
Line 3:
Line 4:   PROCEDURE mystery(list)
Line 5:   {
Line 6:     sum ← list[1]
Line 7:     count ← 1
Line 8:     n ← LENGTH(list)
Line 9:     REPEAT n TIMES
Line 10:    {
Line 11:      sum ← sum + list(count)
Line 12:      count ← count + 1
Line 13:    }
Line 14:    RETURN(sum/count)
Line 15:  }
```

(A) 0
(B) 13
(C) 16
(D) 35

76. What will `list2` contain after this program segment is run?



(A) [6, 76, 4, 98]
(B) [1, 1, 35]
(C) [1, 1, 35, 6, 76, 4, 98]
(D) [ ]

77. What will `list2` contain after this program segment is run?

```
list1 ← 1, 1, 35, 6, 76, 4, 98
list2 ← _
FOR EACH item IN list1
    IF item MOD 2 = 0 AND item MOD 2 = 1
        APPEND list2, item
```

(A) [0]
(B) [−11]
(C) [−35]
(D) [ ]

78. What will `list2` contain after this program segment is run?

```
list1 ← 1, 1, 35, 6, 76, 4, 98
list2 ← _
FOR EACH item IN list1
    IF item MOD 2 = 0 OR item MOD 2 = 1
        APPEND list2, item
```

(A) [6, 76, 4, 98]
(B) [1, 1, 35]
(C) [1, 1, 35, 6, 76, 4, 98]
(D) [ ]

79. What will the following program display?

```
list1 ← 1, 1, 35, 6, 76, 4, 98
max ← list1 1
FOR EACH item IN list1
    IF item > max
        max ← item
DISPLAY max
```

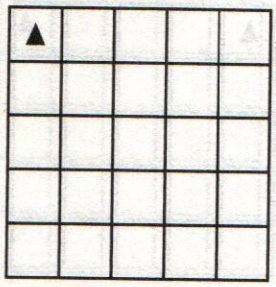
(A) 0
(B) 1
(C) 76
(D) 98

80. What will the following program display?

```
list1 ← 1, 1, 35, 6, 76, 4, 98
max ← 0
FOR EACH item IN list1
    IF item > max
        max ← item
DISPLAY max
```

(A) 98
(B) 1
(C) 0
(D) −98

81. The following question uses a robot in a grid of squares. The robot is represented as a triangle, which is initially in the top-left square of the grid and facing toward the top of the grid.

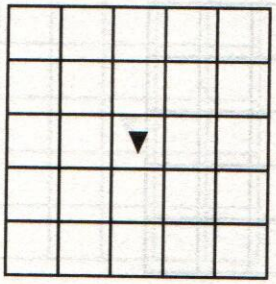


Code for the procedure "mystery" is shown here. Assume that the parameter *p* has been assigned a positive integer value (e.g., 1, 2, 3, . . .).

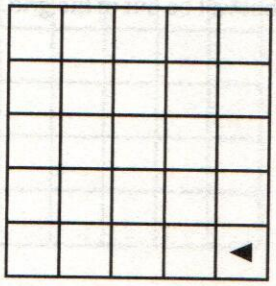
```
PROCEDURE mystery (p)
  REPEAT p TIMES
    ROTATE_RIGHT
    MOVE_FORWARD
    MOVE_FORWARD
```

Which of the following shows a possible result of calling the procedure?

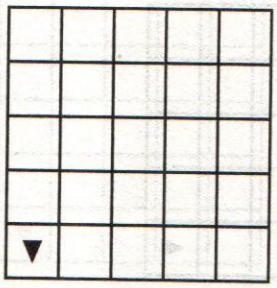
(A)



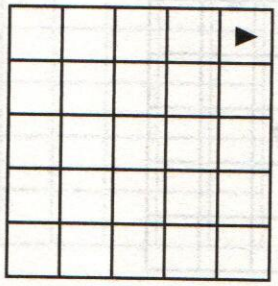
(B)



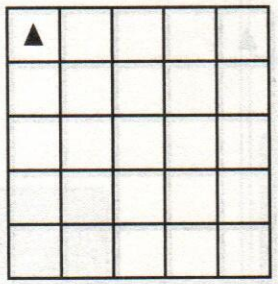
(C)



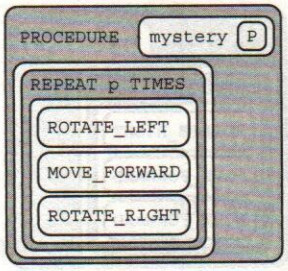
(D)



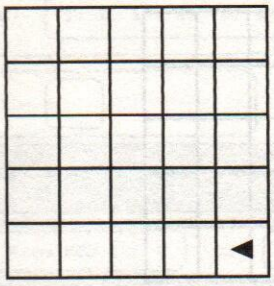
82. The following question uses a robot in a grid of squares. The robot is represented as a triangle, which is initially in the top-left square of the grid and facing toward the top of the grid.

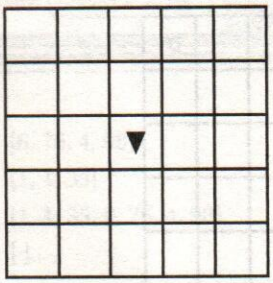


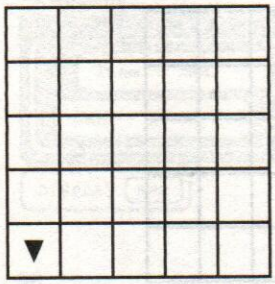
Code for the procedure "mystery" is shown below. Assume that the parameter p has been assigned a positive integer value (e.g., 1, 2, 3, . . .).



Which of the following shows the result of calling the procedure when $p = 4$?

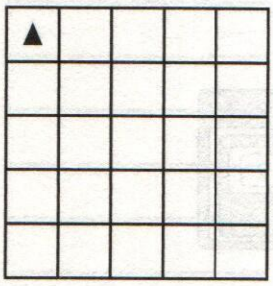
(A) 

(B) 

(C) 

(D) Error. The robot will be out of the grid.

83. The following question uses a robot in a grid of squares. The robot is represented as a triangle, which is initially in the top-left square of the grid and facing toward the top of the grid.

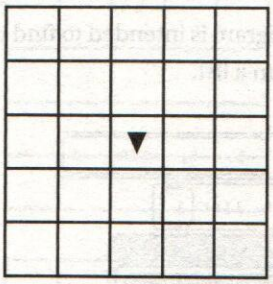


Code for the procedure "mystery" is shown below. Assume that the parameter p has been assigned a positive integer value (e.g., 1, 2, 3, . . .).

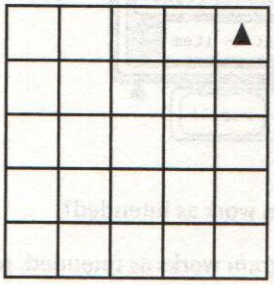
```
PROCEDURE mystery (p)
  REPEAT p TIMES
    ROTATE_RIGHT
    MOVE_FORWARD
    ROTATE_LEFT
```

Which of the following shows the result of calling the procedure when $p = 4$?

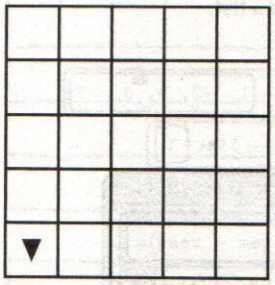
(A)



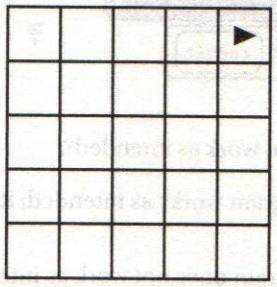
(B)



(C)



(D)



84. The program below is intended to find the highest non-negative number in a list.

```
list ← 1, −2, 3, 0, −7
result ← 0
FOR EACH item IN list
    IF item < result AND item < 0
        result ← item
DISPLAY result
```

Does the program work as intended?

(A) Yes, the program works as intended; it displays 1.

(B) No, the program does not work as intended; the result starts at 0.

(C) Yes, the program works as intended; it displays 3.

(D) No, the program does not work as intended; the "IF" conditional should be "item > result AND item < 0."

85. The following program is intended to find the lowest number in a list.

```
list ← 1, −2, 3, 0, −7
result ← list 1
FOR EACH item IN list
    IF item < result
        result ← item
DISPLAY result
```

Does the program work as intended?

(A) Yes, the program works as intended; it displays −7.

(B) No, the program does not work as intended; the result is always list[1].

(C) Yes, the program works as intended; it displays 1.

(D) No, the program does not work as intended; it produces a runtime error.

86. The following program is intended to find the lowest number in a list.

```
list ← −1, −5, −9, −10
result ← 0
FOR EACH item IN list
    IF item < result
        result ← item
DISPLAY result
```

Does the program work as intended?

(A) Yes, the program works as intended and returns −10.

(B) No, the program does not work as intended; although this code runs, it returns a logical error of the value 0.

(C) Yes, the program works as intended and returns the value −1.

(D) No, the program does not work as intended and results in a runtime error not returning a number.

87. The following program is intended to find the greatest number in a list.

```
list ← −3, −5, −200, −1
result ← list 1
FOR EACH item IN list
    IF item > result
        result ← item
DISPLAY result
```

Does the program work as intended?

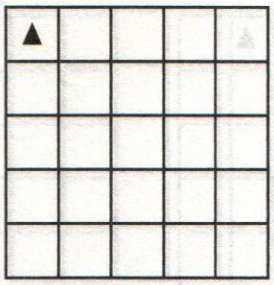
(A) Yes, the program works as intended, returning −200.

(B) No, the program does not work as intended; the result never changes and instead returns −3.

(C) Yes, the program works as intended and returns −1.

(D) No, the program does not work as intended; it produces a runtime error.

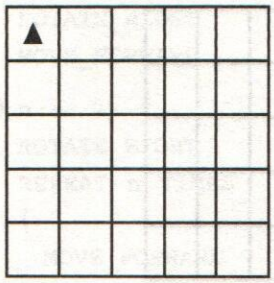
88. The following question uses a robot in a grid of squares. The robot is represented as a triangle, which is initially in the top-left square of the grid and facing toward the top of the grid.

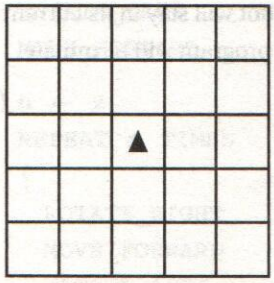


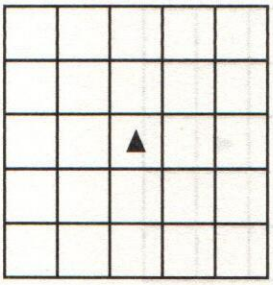
Code for the procedure "mystery" is shown below. Assume that the parameter *p* has been assigned a positive integer value (e.g., 1, 2, 3, . . .).

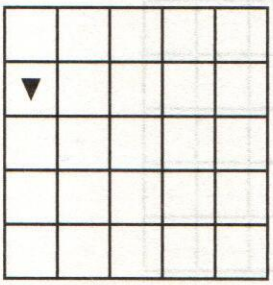
```
PROCEDURE mystery (p)
  REPEAT p TIMES
    ROTATE_LEFT
  MOVE_FORWARD
```

Which of the following shows the result of calling the procedure when mystery(6)?

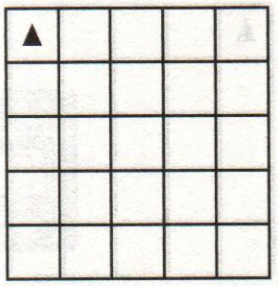
(A)


(B)


(C)


(D)


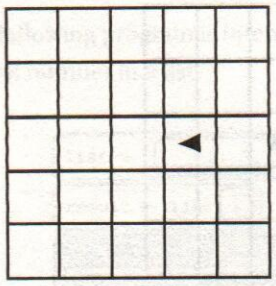
89. The following question uses a robot in a grid of squares. The robot is represented as a triangle, which is initially in the top-left square of the grid and facing toward the top of the grid.

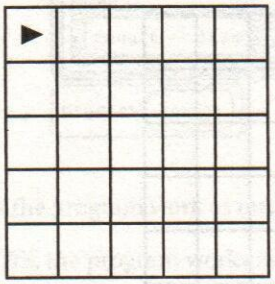


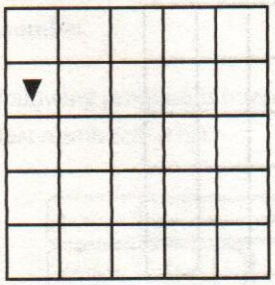
Code for the procedure "mystery" is shown below. Assume that the parameter *p* has been assigned a positive integer value (e.g., 1, 2, 3, . . .).

```
PROCEDURE mystery (p)
  REPEAT p TIMES
    MOVE_FORWARD
  ROTATE_RIGHT
```

Which of the following shows the result of calling the procedure when calling mystery(6)?

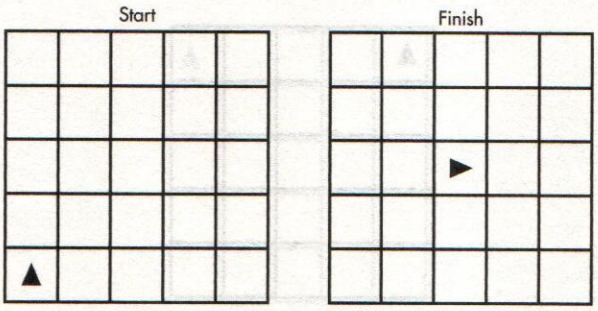
(A) 

(B) 

(C) 

(D) Error. The robot will stay in its current location and the program will terminate.

90. The following question uses a robot in a grid of squares. The robot is represented as a triangle, which is initially in the bottom-left square of the grid and facing toward the top of the grid.



Which of the following code segments produces the result above?

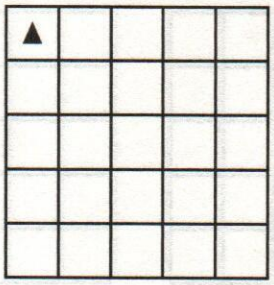
(A)
```
n ← 2
REPEAT n TIMES{
ROTATE_RIGHT
MOVE_FORWARD
ROTATE_LEFT
MOVE_FORWARD
}
```

(B)
```
MOVE_FORWARD
MOVE_FORWARD
ROTATE_RIGHT
MOVE_FORWARD
```

(C)
```
n ← 2
ROTATE_RIGHT
REPEAT n TIMES
{
  MOVE_FORWARD
}
ROTATE_LEFT
MOVE_FORWARD
```

(D)
```
n ← 2
REPEAT n TIMES
{
  ROTATE_RIGHT
  MOVE_FORWARD
  ROTATE_LEFT
  MOVE_FORWARD
}
ROTATE_RIGHT
```

91. The following question uses a robot in a grid of squares. The robot is represented as a triangle, which is initially in the top-left square of the grid and facing toward the top of the grid.



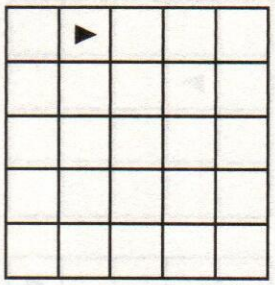
Code for the procedure "mystery" is shown below. Assume that the parameter *p* has been assigned a positive integer value (e.g., 1, 2, 3, . . .).

```
PROCEDURE mystery (p)
  REPEAT p TIMES
    ROTATE_RIGHT
    MOVE_FORWARD
```

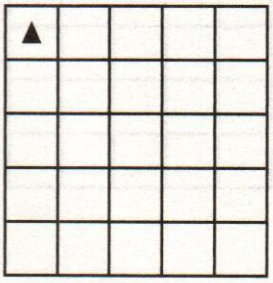
Which of the following could be the result of calling the procedure for any positive value of *p*?

Select two answers.

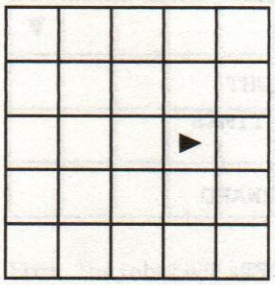
(A)



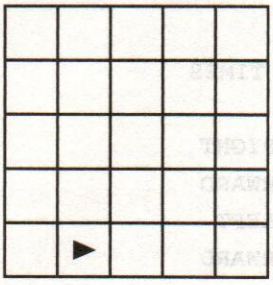
(B)



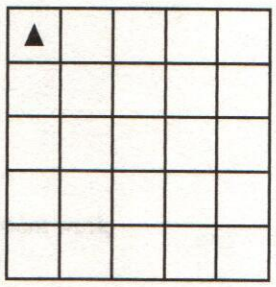
(C)



(D)



92. The following question uses a robot in a grid of squares. The robot is represented as a triangle, which is initially in the top-left square of the grid and facing toward the top of the grid.

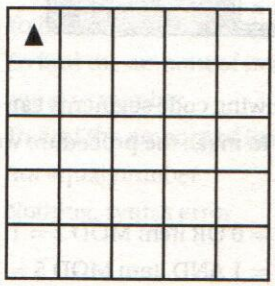


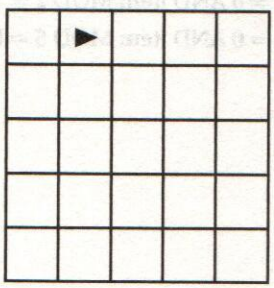
Code for the procedure "mystery" is shown below. Assume that the parameter *p* has been assigned a positive integer value of either 0 or 1.

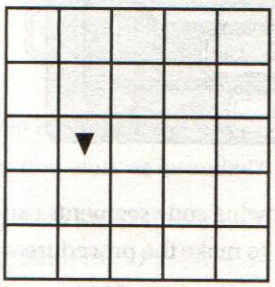
```
PROCEDURE mystery p
  REPEAT p TIMES
    ROTATE_RIGHT
    MOVE_FORWARD
    ROTATE_RIGHT
    MOVE-FORWARD
    MOVE-FORWARD
```

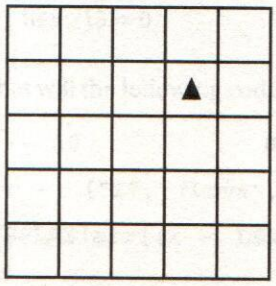
Which of the following shows the result of calling the procedure for the value of *p* equal to 0 or 1?

Select two answers.

(A) 

(B) 

(C) 

(D) 

93. The following program is intended to find the average of a class's scores.

```
scores ← 10, 10, 15
count ← 0
FOR EACH item IN scores
    result ← 0
    result ← result + item
    count ← count + 1
DISPLAY result / count
```

What does the code segment display?

(A) 0
(B) 5
(C) 20
(D) Nothing, runtime error

94. The following code segment is intended to find the maximum.

```
PROCEDURE mystery list
    max ← list 1
    FOR EACH item IN list
        IF missing code
            max ← item
    RETURN max
```

Which of the following code segments can replace `missing code` to make the procedure work as intended?

(A) max > item
(B) max = item
(C) item > max
(D) max >= item

95. What does the following code segment return?

```
PROCEDURE mystery list
    x ← 0
    FOR EACH item IN list
        IF item MOD 2 = 1
            x ← x + 1
    RETURN x
```

(A) The number of even items in `list`
(B) The number of items in `list`
(C) The number of odd items in `list`
(D) Nothing, the code causes a runtime error

96. The following procedure is intended to find the amount of numbers in a list that are divisible by 5 and 2.

```
PROCEDURE mystery list
    x ← 0
    FOR EACH item IN list
        IF missing code
            x ← x + 1
    RETURN x
```

Which of the following code segments can replace `missing code` to make the procedure work as intended?

(A) item MOD 5 = 0 OR item MOD 2 = 1
(B) item MOD 2 = 1 AND item MOD 5 = 1
(C) item MOD 5 = 0 AND item MOD 2 = 1
(D) item MOD 2 = 0 AND item MOD 5 = 0

97. The following code segment is intended to switch the values of x and y (assume x and y have already been initialized).

```
x ← y
y ← x
```

What can be done to make the code segment work as intended?

(A) Add "temp ← x" above "$x \leftarrow y$" and replace "$y \leftarrow x$" with "$y \leftarrow$ temp."
(B) Nothing, the code works as intended
(C) Add "temp ← x" below "$x \leftarrow y$"
(D) Add "temp ← y" above "$x \leftarrow y$"

98. What is the purpose of the following procedure?

```
PROCEDURE mystery number, list
  x ← 0
  FOR EACH item IN list
    IF number = item
      x ← x + 1
  RETURN x
```

(A) To find the amount of items in `list`
(B) To find the amount of items in `list` that are equal to number
(C) To find the amount of items in `list` that do not equal number
(D) Nothing, syntax error

99. What is returned by the following procedure?

```
PROCEDURE mystery number, list
  x ← 0
  FOR EACH item IN list
    IF item MOD number = 0
      x ← x + 1
  RETURN x
```

(A) Nothing, syntax error
(B) To find the number of items in `list` that equal number
(C) To find the amount of items in `list` that are divisible by number
(D) Nothing, runtime error

100. The following procedure is intended to find the amount of values divisible by 15 in list.

```
PROCEDURE mystery number, list
  x ← 0
  FOR EACH item IN list
    IF missing code
      x ← x + 1
  RETURN x
```

What can replace `missing code` to make the function work as intended?

(A) item MOD 15 = 0
(B) item/15 = 1
(C) item MOD 15 = 1
(D) item/15 = 0

101. What will the following code segment display?

```
x ← 10
arr ← ["I", "Love", "Puppies"]
DISPLAY(arr[(x - LENGTH(arr)) MOD
4])
```

(A) I
(B) Love
(C) Puppies
(D) ArrayOutOfBoundsException

102. The method `isFound(list, item)` returns true if the item is in the list. What does `list3` contain after the procedure is run below?

```
list1 ← [1, 35, 6, 76, −4, 98]
list2 ← [5, 1, 8, 6, 96, −4]
list3 ← [ ]
PROCEDURE mystery [list1, list2, list3]
  FOR EACH item IN list1
    IF [isFound [list2, item] AND [item < 0]]
      APPEND [list3, item]
  RETURN [list3]
```

(A) [−4, −98]
(B) [1, 6, −4]
(C) [−4]
(D) [1, 35, 6, 76, 4, 98, 5, 1, 8, 96, −4]

103. The method `isFound(list, item)` returns true if the item is in the list. What does `list3` contain after the program is run below?

```
list1 ← [1, 35, 6, 76, −4, 98]
list2 ← [5, 1, 8, 6, 96, −4]
list3 ← [ ]
PROCEDURE mystery [list1, list2, list3]
  FOR EACH item IN list1
    IF [isFound [list2, item] AND [item > 0]]
      APPEND [list3, item]
  RETURN [list3]
```

(A) [−4, −98]
(B) [1, 6, −4]
(C) [−4]
(D) [1, 6]

104. In the following program, which chart displays the ways in which the variables are changed?

```
x ← 5
y ← 10
z ← 15
z ← x − y
x ← z − 15
y ← y + x
x ← x + y + z
```

(A)

x	y	z
~~5~~	~~10~~	~~15~~
~~−5~~	−5	0
−10		

(B)

x	y	z
~~5~~	~~10~~	~~15~~
~~0~~	10	0
10		

(C)

x	y	z
~~5~~	~~10~~	~~15~~
~~5~~	10	15
5		

(D)

x	y	z
~~5~~	~~10~~	~~15~~
~~−20~~	−10	−5
−35		

105. A programmer is curious about the accuracy of a new touchpad. To test it, he creates a program that graphically displays the location of the detected pressure and technical information about the device's current state. What types of input and output are used by this program?

	Input	Output
(A)	Visual	Tactile
(B)	Visual	Audible
(C)	Tactile	Visual
(D)	Tactile	Audible

106. Which of the following statements correctly describes a procedure?

I. A procedure can be used in any program as long as the original procedure can be located.
II. A procedure is able to work in any program without translation, regardless of the language in which the program is coded.
III. A procedure can be reused throughout a program.

(A) I only
(B) I and II only
(C) I and III only
(D) II and III only

107. Why is it generally considered a better idea to use procedures in a program?

Select two answers.

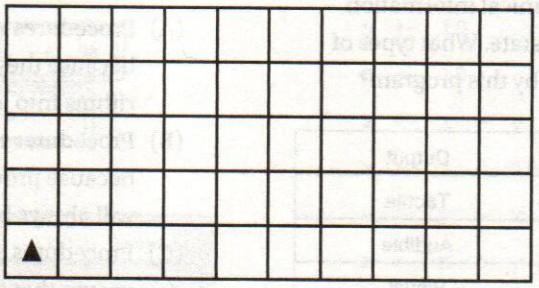
(A) Procedures make a program easier to read because they can collapse complex algorithms into a single procedure call.
(B) Procedures make a program easier to share because procedures used in the program will always be in the same file.
(C) Procedures are easier to read because they ensure that the code is working correctly.
(D) Procedures make a program easier to modify because editing a repeated algorithm in a procedure requires editing only the procedure.

108. What is the benefit of using a programming library?

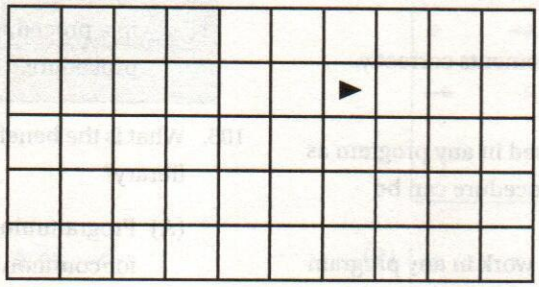
(A) Programming libraries include procedures for common functions, such as exponents, which save programmers from having to make such procedures themselves.
(B) Programming libraries make it easy to translate code from one programming language to another.
(C) Programming libraries allow people to derive code from a compiled program because these libraries correspond between compiled code and high-level code.
(D) Programming libraries slow the execution time of programs.

109. The following question uses a robot in a grid. The robot is presented as a triangle, which is initially in the lower-left square of the grid and facing toward the top of the grid.

Starting Grid



Ending Grid



`PROCEDURE ziz()`
`{`
`MOVE_FORWARD()`
`MOVE_FORWARD()`
`MOVE_FORWARD()`
`}`
	`PROCEDURE zag()`
	`{`
	`ROTATE_RIGHT()`
	`}`

Which of the following programs will place the robot in the ending grid location?

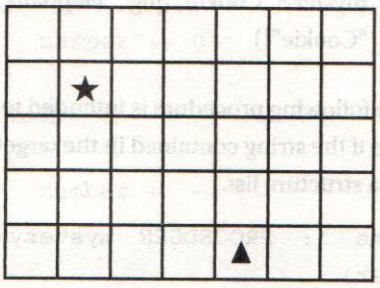
(A)
```
ziz
zag
ziz
ziz
```

(B)
```
ziz
zag
ziz
```

(C)
```
ziz
zag
```

(D)
```
zag
ziz
ziz
ziz
```

110. The following question uses a robot in a grid. The robot is presented as a triangle, which is initially in the lower row of the grid and facing up. Which of the following calls to `moveAndTurn` will result in the robot's landing on the star?



```
PROCEDURE moveAndTurn()
{
  MOVE_FORWARD()
  MOVE_FORWARD()
  MOVE_FORWARD()
  ROTATE_RIGHT()
  ROTATE_RIGHT()
  ROTATE_RIGHT()
}
```

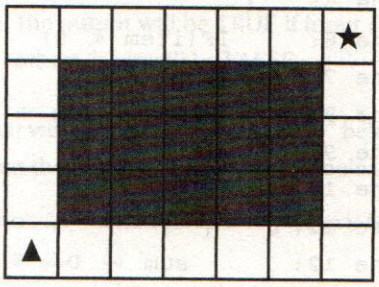
(A) `moveAndTurn()`

(B) `moveAndTurn()`
`moveAndTurn()`

(C) `moveAndTurn()`
`moveAndTurn()`
`moveAndTurn()`

(D) `moveAndTurn()`
`moveAndTurn()`
`moveAndTurn()`
`moveAndTurn()`

111. The following question uses a robot in a grid. The robot is presented as a triangle, which is initially in the lower-left row of the grid and is facing up. Which of the following calls to `moveAndSpin` will result in the robot's landing on the star?



```
Line 1:  PROCEDURE moveAndSpin(x, y)
Line 2:  {
Line 3:    REPEAT x TIMES
Line 4:    {
Line 5:      MOVE_FORWARD()
Line 6:    }
Line 7:    REPEAT y TIMES
Line 8:    {
Line 9:      ROTATE_RIGHT()
Line 10:   }
Line 11: }
```

Select two answers.

(A) `moveAndSpin(4, 1)`
`moveAndSpin(6, 0)`

(B) `moveAndSpin(0, 1)`
`moveAndSpin(6, 3)`
`moveAndSpin(4, 0)`

(C) `moveAndSpin(7, 3)`

(D) `moveAndSpin(0, 7)`

112. A procedure is shown.

```
Line 1:  PROCEDURE mystery(myList)
Line 2:  {
Line 3:    sum ←0
Line 4:    FOR EACH item IN myList
Line 5:    {
Line 6:      IF(item < 0)
Line 7:      {
Line 8:        sum ← sum + item
Line 9:      }
Line 10:     ELSE
Line 11:     {
Line 12:       sum ← 0
Line 13:     }
Line 14:   }
Line 15: }
```

Which of the following values for `myList` will cause the procedure `mystery` to assign the value of sum to the total value of all the elements in `myList` added together?

(A) [3, 5, 23, 88]
(B) [−3, −5]
(C) [−3, 5, −8]
(D) [−4, 0]

113. The following procedure is intended to return true if the string contained in target is in the data structure list.

```
Line 1:  PROCEDURE mystery(target,
list)
Line 2:  {
Line 3:    found ← false
Line 4:    FOR EACH item IN list
Line 5:    {
Line 6:      IF(item = target)
Line 7:      {
Line 8:        found ← true
Line 9:      }
Line 10:     ELSE
Line 11:     {
Line 12:     found ← false
Line 13:     }
Line 14:   }
Line 15: RETURN found
Line 16: }
```

Which of the following method calls will **NOT** return true?

(A) mystery("pig", ["cat", "pig"])
(B) mystery("pig", ["cat", "pig", "snake"])
(C) mystery("pig", ["cat", "pig", "pig"])
(D) mystery("Cookie", [pig", "elephant", "Cookie"])

114. The following procedure is intended to return true if the string contained in the target is in the data structure list.

```
Line 1:  PROCEDURE mystery(target,
list)
Line 2:  {
Line 3:    found ← false
Line 4:    n ← 0
Line 5:    REPEAT LENGTH(list) TIMES
Line 6:    {
Line 7:      IF(list[LENGTH(list) −
n] = target)
Line 8:      {
Line 9:        found ← true
Line 10:     }
Line 11:     ELSE
Line 12:     {
Line 13:       found ← false
Line 14:     }
Line 15    n ← n + 1
line 16:   }
Line 17:   RETURN found
Line 18: }
```

Which of the following test cases will return the value true?

(A) mystery("pig", ["cat", "pig"])
(B) mystery("pig", ["cat", "pig", "snake"])
(C) mystery("pig", ["cat" , "pig", "pig"])
(D) mystery("pig", ["pig", "elephant", "Cookie"]

115. In the procedure "mystery" below, the parameter number is a positive integer.

```
PROCEDURE mystery(number)
{
   IF(number MOD 2 = 0)
   {
      number ← 0
   }
   ELSE
   {
      number ← -1
   }

   RETURN(number)
}
```

Which of the following best describes the result of running the procedure "mystery"?

(A) The procedure will return 0 if the number is even and −1 if the number is odd.
(B) The procedure will return −1 if the number is greater than 3 and 0 if the number is less than 3.
(C) The procedure will return −1 for all numbers that are greater than 0.
(D) This program will not return a number as it is in an infinite loop.

116. What will the procedure "mystery" below return when the parameters (A, B) are Boolean values?

```
Line 1:  PROCEDURE mystery(A, B)
Line 2:  {
Line 3:    IF(A OR TRUE)
Line 4:    {
Line 5:      IF(B AND FALSE)
Line 6:      {
Line 7:        RETURN(TRUE)
Line 8:      }
Line 9:    }
Line 10: RETURN(FALSE)
Line 11: }
```

(A) The output will be TRUE no matter the value of A or B.
(B) The output will be FALSE no matter the value of A or B.
(C) The output will be TRUE if input A is TRUE; otherwise it will be FALSE.
(D) The output will be TRUE if input B is TRUE; otherwise it will be FALSE.

117. What will the procedure "mystery" below return when the parameters (A, B) are Boolean values?

```
Line 1:  PROCEDURE mystery(A, B)
Line 2:  {
Line 3:    IF(A AND TRUE)
Line 4:    {
Line 5:      IF(TRUE OR B)
Line 6:      {
Line 7:        RETURN(TRUE)
Line 8:      }
Line 9:    }
Line 10:     ELSE
Line 11:   {
Line 12:     RETURN(FALSE)
Line 13:   }
Line 14: }
```

(A) The output will be TRUE no matter the value of A or B.
(B) The output will be FALSE no matter the value of A or B.
(C) The output will be TRUE if input A is TRUE; otherwise it will be FALSE.
(D) The output will be TRUE if input B is TRUE; otherwise it will be FALSE.