

Python CodeX Mid-Term: Part 1

Firia Labs - Programming with CodeX - AP CSP curriculum

* Indicates required question

1. Student Name *

2. Class period *

Mark only one oval.

Period 2

Period 4

3. What does the "import" command do? *

1 point

```
from codex import *  
from time import sleep  
import random
```

Mark only one oval.

- Allows you to use the CodeX, time and random numbers
- Moves the code to a different programming environment
- Provides access to pre-built functions and methods in coding libraries
- Enables object-oriented programming

4. Which of these tips is NOT something that makes your code more readable? * 1 point

Mark only one oval.

- Variables names that are just one or two letters, like 'ab' or 'xy'
- Blank lines in the code
- Comments that explain the code
- Consistent 4-space indenting in code blocks

5. What does the code do? * 1 point

```
delay = 1
```

Mark only one oval.

- Puts the CPU into sleep mode for 1 second
- Assigns the value 1 to a variable named 'delay'
- Delays program execution for 1 second
- Sets the parameter to 1

6. What data type is num = 5 1 point

Mark only one oval.

- float
- Boolean
- integer
- string
- list

7. What data type is num = 4.3

1 point

Mark only one oval.

- float
- Boolean
- integer
- string
- list

8. What data type is choice = False

1 point

Mark only one oval.

- float
- Boolean
- integer
- string
- list

9. What data type is name = 'Angel'

1 point

Mark only one oval.

- float
- Boolean
- integer
- string
- list

10. What data type is `my_colors = ['Red', 'Blue', 'Green', 'White']`

1 point

Mark only one oval.

- float
- Boolean
- integer
- string
- list

11. What does the code do?

1 point

```
play_it = "sounds/roll"
```

Mark only one oval.

- Plays the audio file "roll"
- Assigns the value "sounds/roll" to a variable named play_it
- Uploads the audio file "roll" into the CodeX sounds folder
- Causes an error

12. What will happen when this code is run? *

1 point

```
x = False
if x:
    display.print("Yes")
else:
    display.print("No")
```

Mark only one oval.

- First 'Yes' will print, and the 'No' will print on the display
- Nothing -- the code block will be skipped
- 'Yes' will print on the display
- 'No' will print on the display

13. What will happen when this code is run? *

1 point

```
choice = 2
if choice == 0:
    display.show(pics.HAPPY)
if choice == 1:
    display.show(pics.SAD)
if choice == 2:
    display.show(pics.TIARA)
if choice == 3:
    display.show(pics.TSHIRT)
```

Mark only one oval.

- All pictures will be displayed, one after the other.
- Only the Happy face will display
- Only the Tiara will display
- The Tiara and then the Tshirt will be displayed

14. What will happen when this code is run? *

1 point

```
value = 25
if value < 20:
    number = 1
if value < 30:
    number = 2
if value < 40:
    number = 3
```

Mark only one oval.

- number = 1
- number = 2
- number = 3
- number = 2 and then number = 3

15. What will happen when this code is run? *

1 point

```
value = 25
if value < 20:
    number = 1
elif value < 30:
    number = 2
else:
    number = 3
```

Mark only one oval.

- number = 1
- number = 2
- number = 3
- number = 2 and then number = 3

16. What line of code initializes, or defines, a counter variable? *

1 point

Mark only one oval.

- count = 0
- count = 1
- count = count + 1
- if count == 1:
- def count = 0

17. What line of code increments a counter? *

1 point

Mark only one oval.

- count = 0
- count = 1
- count = count + 1
- if count == 1:
- def count = 1

18. What line of code compares a counter to 1? *

1 point

Mark only one oval.

- count = 0
- count = 1
- count = count + 1
- if count == 1:

19. What does the following line of code do? *

1 point

```
delay = delay + 0.02
```

Mark only one oval.

- decreases the delay variable by 0.02
- increases the delay variable by 0.02
- changes the value of delay to 0.02
- causes an error in the code

20. What are the possible values num, given for the following code? *

1 point

```
num = random.randrange(10)
```

Mark only one oval.

- 10
- 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
- 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
- 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
- an error will occur because you must give the code a beginning and ending value

21. What is the result if the user pushes button B?

1 point

```
pressed = buttons.was_pressed(BTN_A):  
if pressed:  
    pixels.set(0, GREEN)  
else:  
    pixels.set(3, RED)
```

Mark only one oval.

- The first pixel turns GREEN
- The last pixel turns RED
- The first pixel turns GREEN and the last pixel turns RED
- Nothing happens, the blocks of code are skipped

22. What is the result if the user pushes button A?

1 point

```
pressed = buttons.was_pressed(BTN_B):  
if pressed:  
    display.fill(WHITE)
```

Mark only one oval.

- The LCD display turns WHITE
- The LCD display turns BLACK
- An error will occur
- Nothing happens, the block of code is skipped

23. What is the index of the first item in a list? *

1 point

Mark only one oval.

- 0
- 1
- A
- It depends on the list

24. What is the index of the last item in a list? *

1 point

Mark only one oval.

- len(my_list)
- len(my_list) - 1
- Z
- It depends on the list

25. What is the value of 'color' after the code is executed? *

1 point

```
my_colors = ['red', 'blue', 'green', 'yellow']  
color = my_colors[2]
```

Mark only one oval.

- red
- blue
- green
- yellow
- an error will happen

26. What are the final colors of the pixels after the code is run? *

1 point

```
pixels.set([BLUE, BLUE, BLUE, BLUE])
pixels.set(2, RED)
```

Mark only one oval.

- BLUE, RED, BLUE, BLUE
- OFF, RED, OFF, OFF
- BLUE, BLUE, RED, BLUE
- OFF, OFF, RED, OFF
- RED, RED, RED, RED

27. What condition stops the loop in this code? *

1 point

```
index = 0
while index < 8:
    index = index + 1
    display.show('continue')
```

Mark only one oval.

- The loop stops when 'index' reaches 0
- The loop stops when 'index' reaches 8
- It is an infinite loop and never stops
- The statement 'index = index + 1' ends the loop

28. The following code is an example of: *

1 point

```
delay = 0.04
num = random.randrange(8)
color = my_colors[num]
```

Mark only one oval.

- iteration
- selection
- sequencing
- randomization

29. The following code is an example of: *

1 point

```
if state == 1:
    delay = 0.04
    num = random.randrange(8)
    color = my_colors[num]
```

Mark only one oval.

- iteration
- selection
- sequencing
- randomization

30. The following code is an example of: *

1 point

```
while count > 0:  
    display.show(my_picc[count])  
    sleep(delay)  
    delay = delay + 0.005  
    index = index + 1
```

Mark only one oval.

- iteration
- selection
- sequencing
- randomization

31. What is a parameter? *

1 point

Mark only one oval.

- A counter
- A type of loop
- A value supplied to a function when it is called
- A value passed to a function when it is called

32. What is an argument? *

1 point

Mark only one oval.

- A counter
- A type of loop
- A value supplied to a function when it is called
- A value passed to a function when it is called

33. What is the argument in this code snippet?

1 point

```
display.fill(BLACK)
```

Mark only one oval.

- display
- fill
- BLACK
- There isn't an argument

34. Which statement is NOT true about functions? *

1 point

Mark only one oval.

- A function is a type of variable
- A function can be called more than once in a program.
- Functions help keep code organized and readable.
- It is easier to make a change to code in one function than in repeated code.

35. What is the correct function CALL for the function below? *

1 point

```
def show_random_arrow(index):  
    arrow = random.randrange(8)  
    display.show(MY_ARROW_LIST[arrow])
```

Mark only one oval.

- index = show_random_arrow(index)
- def show_random_arrow(index):
- show_random_arrow(index)
- show_random_arrow()

36. What is the correct function CALL for the function below? *

1 point

```
def wait_button():  
    display.print("Press A to start")  
    while True:  
        if buttons.was_pressed(BTN_A):  
            break
```

Mark only one oval.

- press = wait_button()
- wait_button()
- wait_button(delay)
- def wait_button()

37. What are the possible values of num (x can be any integer?)

1 point

num = x % 4

Mark only one oval.

- 0, 1, 2, 3
- 0, 1, 2, 3, 4
- 1, 2, 3, 4
- All positive integers

38. Evaluate: 7 / 5

1 point

Mark only one oval.

- 1
- 2
- 1.4
- .4

39. Evaluate: $7 // 5$

1 point

Mark only one oval. 1 2 1.4 .440. Evaluate: $7 \% 5$

1 point

Mark only one oval. 1 2 1.4 .441. Evaluate: $4 \% 5$

1 point

Mark only one oval. 1 4 0 .8

42. What is the final value of alist after this code is run?

1 point

```
1 alist = []
2 alist.append(4)
3 alist.append(3)
4 alist.append(2)
5 alist.append(1)
6 alist[3] = alist[3] + 1
7 alist.append(alist[0] + alist[1])
8 alist.pop(1)
9 alist[3] = alist[3] + 1
10 alist[2] = len(alist)
11 alist[1] = 0
```

Mark only one oval.

- alist = [4, 0, 4, 8]
- alist = [4, 0, 2, 4, 8]
- alist = [0, 2, 5, 7]
- alist = [4, 0, 2, 5, 7]

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