Python Test

Firia Labs - Programming with CodeX

* Indicates required question

1. Name (first and last) *

Python Questions

2. What does the "import" command do? * 1 point

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

Mark only one oval.

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

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

Mark only one oval.

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

4. What do you expect the following code to do? * 1 point

```
pixels.set(0, GREEN)
pixels.set(0, RED)
```

Mark only one oval.

- Display a GREEN light only
- Display a RED light only
- Display a GREEN light for 1 second and then a RED light for 1 second
- Display a GREEN light very quickly followed by a RED light

5. What does the code do? * 1 point

```
color = BLUE
```

Mark only one oval.

- Displays a BLUE pixel
- Assigns the value BLUE to a variable named 'color'
- Sets the color of all pixels to BLUE
- Changes the display screen to BLUE

6. Which of the following is NOT a standard Python type? * 1 point

Mark only one oval.

- 'text'
- 'int'
- 'float'
- 'str'
- 'bool'

7. What data type is: 1 point

```
grams = 12.7
```

Mark only one oval.

- float
- Boolean
- integer
- string
- list

8. What data type is: 1 point

```
food = 'Cookie'
```

Mark only one oval.

- float
- Boolean
- integer
- string
- list

9. What data type is: 1 point

```
names = ['Sally', 'Charlie', 'Linus', 'Lucy']
```

Mark only one oval.

- float
- Boolean
- integer
- string
- list

10. What data type is: 1 point

```
choice = True
```

Mark only one oval.

- float
- Boolean
- integer
- string
- list

11. What data type is: 1 point

```
age = 14
```

Mark only one oval.

- ◯ float
- ◯ Boolean
- ◯ integer
- ◯ string
- ◯ list

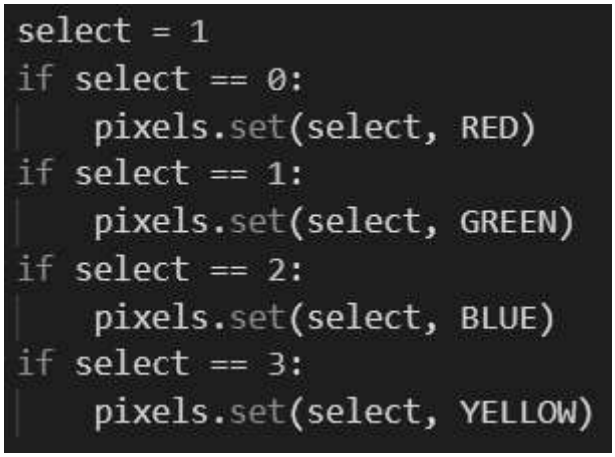
12. What will happen when this code is run? * 1 point

```
level = True
if level:
    display.show(pics.HAPPY)
else:
    display.show(pics.SAD)
```

Mark only one oval.

- ◯ The happy face will display, and then the sad face will display
- ◯ The happy face will display
- ◯ The sad face will display
- ◯ Nothing -- there is an error in the code

13. What will happen when this code is run? * 1 point



```
select = 1
if select == 0:
    pixels.set(select, RED)
if select == 1:
    pixels.set(select, GREEN)
if select == 2:
    pixels.set(select, BLUE)
if select == 3:
    pixels.set(select, YELLOW)
```

Mark only one oval.

- All pixels will be lit, in RED, GREEN, BLUE and YELLOW
- All pixels will be lit in GREEN
- Pixel 1 will be lit in GREEN
- Pixel 1 will first be RED, then GREEN, then BLUE, and then YELLOW

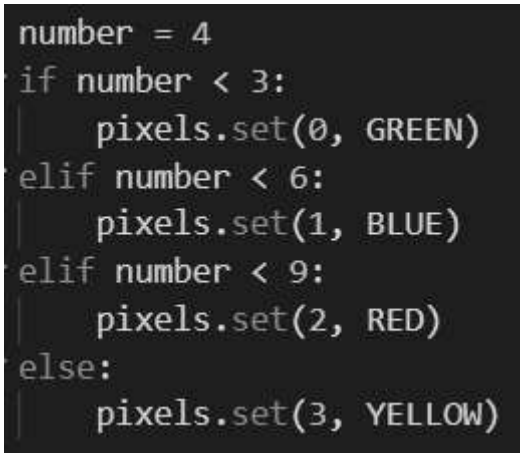
14. What will happen when this code is run? * 1 point

```
number = 4
if number < 3:
    pixels.set(0, GREEN)
if number < 6:
    pixels.set(1, BLUE)
if number < 9:
    pixels.set(2, RED)
if number < 12:
    pixels.set(3, YELLOW)
```

Mark only one oval.

- Pixel 1 will turn BLUE
- Pixel 1 will turn BLUE and Pixel 2 will turn RED
- Pixel 1 will turn BLUE and Pixel 2 will turn RED and Pixel 3 will turn YELLOW
- Pixel 3 will turn YELLOW

15. What will happen when this code is run? * 1 point



```
number = 4
if number < 3:
    pixels.set(0, GREEN)
elif number < 6:
    pixels.set(1, BLUE)
elif number < 9:
    pixels.set(2, RED)
else:
    pixels.set(3, YELLOW)
```

Mark only one oval.

- Pixel 1 will turn BLUE
- Pixel 1 will turn BLUE and Pixel 2 will turn RED
- Pixel 1 will turn BLUE and Pixel 2 will turn RED and Pixel 3 will turn YELLOW
- Pixel 3 will turn YELLOW

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

```
number = random.randrange(5)
```

Mark only one oval.

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

21. What does the 'break' command do? * 1 point

```
while True:
    if buttson.was_pressed(BTN_A):
        break
```

Mark only one oval.

- Breaks out of the if statement
- Crashes the program
- Breaks out of the while loop
- Causes the code to stop

22. 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

23. 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

24. What is the value of 'person' after the code is executed? * 1 point

```
names = ['Lucy', 'Snoopy', 'Linus', 'Charlie']
person = names[1]
```

Mark only one oval.

- 'Lucy'
- 'Snoopy'
- 'Linus'
- 'Lucy', 'Snoopy', 'Linus', 'Charlie'
- an error will happen

25. What are the final colors of the pixels after the code is run? * 1 point

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

Mark only one oval.

- BLUE, RED, RED, GREEN
- BLUE, RED, GREEN, RED
- GREEN, GREEN, GREEN, GREEN
- BLUE, GREEN, RED, RED

26. What condition stops the loop in this code? * 1 point

```
index = 0
while index < 5:
    index = index + 1
    display.print(index)
```

Mark only one oval.

- The loop stops when 'index' reaches 4
- The loop stops when 'index' reaches 5
- It is an infinite loop and never stops
- The statement 'index = index + 1' ends the loop

27. 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

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. 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

31. 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

32. What is a global variable? * 1 point

Mark only one oval.

- A variable created outside of a function that can be seen and used throughout the program
- A variable that is created and used in a condition or loop
- A variable that is created inside a function and only exists while the function is running
- A variable that is created specifically for a list

33. What is a local variable? * 1 point

Mark only one oval.

- A variable created outside of a function that can be seen and used throughout the program
- A variable that is created and used in a condition or loop
- A variable that is created inside a function and only exists while the function is running
- A variable that is created specifically for a list

34. When do you need to use the 'global' command, like shown below? * 1 point

```
def show_random_die(delay):
    global num
```

Mark only one oval.

- Every time you declare a global variable
- When you use a global variable in a condition or loop
- When you change the value of a global variable outside a function
- When you change the value of global variable inside a function

35. Which statement is NOT true about functions? * 1 point

Mark only one oval.

- Functions can only use global variables.
- You can reuse code by calling functions multiple times.
- Functions help keep code organized and readable.
- It is easier to make a change to code in one function than in repeated code.

36. What is the correct function CALL for the function below? * 1 point

```
def instructions():
    display.clear()
    display.print("Do you want")
    display.print("easy or hard?")
    display.print("Press A for easy")
    display.print("Press B for hard")
    while True:
        if buttons.was_pressed(BTN_A):
            choice = "easy"
            break
        if buttons.was_pressed(BTN_B):
            choice = "hard"
            break
    return choice
```

Mark only one oval.

- choice = instructions()
- instructions(choice)
- instructions()
- choice = instructions('easy')

37. What is the correct function CALL for the function below? * 1 point

```
def tree(x, y):
    display.fill_rect(x+25, y+25, 10, 10, GREEN)
    display.fill_rect(x+20, y+35, 20, 10, DARK_GREEN)
    display.fill_rect(x+15, y+45, 30, 10, GREEN)
    display.fill_rect(x+10, y+55, 40, 10, DARK_GREEN)
    display.fill_rect(x+25, y+65, 10, 15, BROWN)
    display.fill_circle(x+30, y+20, 8, YELLOW)
```

Mark only one oval.

- ◯ tree()
- ◯ x = tree()
- ◯ tree(x, y)
- ◯ y = tree(x)

38. What is the error in the code below? * 1 point

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

Mark only one oval.

- ◯ Spelling or typing error
- ◯ The indenting is not correct
- ◯ The loop will never start
- ◯ The while loop block does not need a colon (:)

39. What is the error in the code below? * 1 point

```
choice = 2
if choice = 1:
    delay = 1.0
if choice = 2:
    delay = 0.5
```

Mark only one oval.

- The name choice can't be used as a variable
- The indenting is not correct
- The conditions need to use == instead of =
- Spelling or typing error

40. What is the error in the code below? * 1 point

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

Mark only one oval.

- The assignment should be choice == 2
- The indenting is not correct.
- The conditions need to use = instead of ==
- The if statements do not need a colon (:)
- Option 6

41. What is the error in the code below? * 1 point

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

Mark only one oval.

- ◯ Spelling or typing error
- ◯ The indenting is not correct
- ◯ The assignment statement needs == instead of =
- ◯ The while loop block needs a colon (:)

Reflection Questions

42. What did you like about using the CodeX? *

_____

43. What did you NOT like about using the CodeX? *

_____

44. How would you rate your experience with CodeSpace? *

Mark only one oval per row.

	Really easy	It was good	Productive struggle	Frustrating	Didn't use it
Text Editor					
Mission Instructions					
Debugger					
CodeTrek					
Toolbox					

45. How well did the CodeX lessons prepare you for the Create PT? *

Mark only one oval per row.

	Very prepared	Somewhat prepared	Very little preparation
Missions			
Extra Lessons			
Create PT Prep			
Kahoots and reviews			

46. As a result of using CodeX and CodeSpace, to what extent do you want to continue computer science? *

Mark only one oval.

- ◯ Because of CodeX, I want to continue in Computer Science
- ◯ I already wanted to study programming, and still want to
- ◯ Using CodeX has not changed my interest in Computer Science
- ◯ I lost interest in Computer Science after using CodeX
- ◯ Other: _____