Math and Coding Q&A

NAME: _____

Date: 1/31/2026
Duration: 60 Minutes

Q. 1 Given the code below, is it correct? If no, please justify your answer(write your explanation).

```
def print_thing(thing)
    print(thing)
```

- ○ a. yes
- ○ b. no

Q. 2 Given the code below, is it correct? If no, please justify your answer(write your explanation).

```
def print_thing(thing):
print(thing)
```

- ○ a. yes
- ○ b. no

Q. 3 Given the code below, what is the output?

```
def values(a,b):
    return a

print(values(3,0))
```

- ○ a. 0
- ○ b. 3
- ○ c. nothing printed
- ○ d. raise error

Q. 4 Which ones are correct to define a variable? (Multiple correct answers)

- ○ a. a = 3
- ○ b. 3 = a
- ○ c. a = "d"
- ○ d. 3 ==“harry”

Q. 5 Which ones are correct to define a variable? (Multiple correct answers)

- ○ a. a = "d"
- ○ b. d=3, a = d
- ○ c. a == "d"
- ○ d. a =“harry”

Q. 6 Given the code below, which one is called a loop variable?

```
foods = ["candy", "ice_cream","noodle"]
for food in foods:
    print(food)
```

- ○ a. foods

- ○ b. for
- ○ c. food
- ○ d. print(food)

Q. 7 Given the code below, which one is called an iterable object?

```
foods = ["candy", "ice_cream","noodle"]
for food in foods:
    print(food)
```

- ○ a. foods
- ○ b. for
- ○ c. food
- ○ d. print(food)

Q. 8 Given the code below, which one is called code block?

```
foods = ["candy", "ice_cream","noodle"]
for food in foods:
    print(food)
```

- ○ a. foods
- ○ b. for
- ○ c. food
- ○ d. print(food)

Q. 9 Given the code below, what is the output?

```
for i in range(1,1):
    print(i)
```

- ○ a. 1
- ○ b. 0 , 1
- ○ c. 1, 1
- ○ d. nothing printed

Q. 10 Given the code below, what is the output?

```
for i in range(4,1):
    print(i)
```

- ○ a. 4, 3, 2
- ○ b. 4, 3, 2, 1
- ○ c. 3, 2, 1
- ○ d. nothing printed

Q. 11 Given the code below, what is the output?

```
for i in range(1,6,2):
    print(i)
```

- ○ a. 1, 2, 3, 4, 5
- ○ b. 1, 3, 5
- ○ c. 1, 2, 5
- ○ d. 1, 3, 5, 6

Q. 12 Given the code below, what is the output?

```
for i in range(1,4,0):
    print(i)
```

- ○ a. 1, 2, 3
- ○ b. 1, 2, 3, 4
- ○ c. nothing printed
- ○ d. ValueError: range() arg 3 must not be zero

Q. 13 Given the code below, what is the output?

```
for i in range(10,4,-2):
    print(i)
```

- ○ a. 10, 8, 6
- ○ b. 10, 8, 6, 4
- ○ c. nothing printed
- ○ d. ValueError

Q. 14 Given a function kids below, what is the output of print(kids(1))?

```
def kids(age):
    if 0< age <= 1:
       return 'Baby'
    elif 1<= age < 3:
       return'Toddler'
    else:
       return 'big kids'
```

- ○ a. Baby
- ○ b. Baby Toddler
- ○ c. Toddler
- ○ d. big kids

Q. 15 Given a function kids below, what is the output of print(kids(2))?

```
def kids(age):
    if 0< age <= 1:
       return 'Baby'
    elif 1<= age < 3:
       return'Toddler'
    else:
       return 'big kids'
```

- ○ a. Baby
- ○ b. Baby Toddler
- ○ c. Toddler
- ○ d. big kids

Q. 16 Given a function kids below, what is the output of print(kids(3))?

```
def kids(age):
    if 0< age <= 1:
       return 'Baby'
    elif 1<= age < 3:
       return'Toddler'
    else:
       return 'big kids'
```

- ○ a. Baby
- ○ b. Baby Toddler
- ○ c. Toddler
- ○ d. big kids

Q. 17 Given a function kids below, what is the output of print(kids(6))?

```
def kids(age):
    if 0< age <= 1:
       return 'Baby'
    elif 1<= age < 3:
       return'Toddler'
    else:
       return 'big kids'
```

- ○ a. Baby
- ○ b. Baby Toddler
- ○ c. Toddler
- ○ d. big kids

Q. 18 Given the code below, what is the output?

```
a = 4
b = 4
if a > b :
    print("a is bigger")
else:
    print("b is bigger")
```

- ○ a. a is bigger
- ○ b. b is bigger
- ○ c. nothing printed

Q. 19 Given the code below, what is the output?

```
for i in range(1,3):
    break
    print(i)
```

- ○ a. 1, 2
- ○ b. 1
- ○ c. nothing printed
- ○ d. 2, 3

Q. 20 Given the code below, what is the output?

```
for i in range(1,3):
    print(i)
    break
```

- ○ a. 1, 2
- ○ b. 1
- ○ c. nothing printed
- ○ d. 2, 3

Q. 21 Given the code below, what is the output?

```
for i in range(1,5):
    if i == 3:
        break
    print(i)
```

- ○ a. 1, 2
- ○ b. 1, 2, 3
- ○ c. 1, 2, 3, 4
- ○ d. 1, 2, 4

Q. 22 Given the code below, what is the output?

```
ages = [78,  9]
for age in ages:
    if age >= 55:
        print(age,"is a senior")
    elif age >= 35:
        print(age,"is middle aged")
    else:
        print(age,"is a youth")
```

- ○ a. 78 is a senior 9 is middle aged
- ○ b. 78 is middle aged 9 is a youth
- ○ c. 78 is a senior 78 is middle aged 9 is a youth
- ○ d. 78 is a senior 9 is a youth

Q. 23 Given the code below, what is the output?

```
movies = [ "Hermione ","harry", "harry"]
for i in movies:
    if i == "harry":
        print("harry is found")
        break
    else:
        print("harry is not found")
```

- ○ a. harry is found
- ○ b. harry is not found
- ○ c. harry is found harry is found
- ○ d. harry is not found harry is found

Q. 24 Given the code below, what is the output?

```
names = ["Claire", "Joseph","Xinwen", "Jennifer"]
for i in names:
    if i == "Claire":
        print("found")
    elif i == "Jennifer":
        print("found")
    else:
        print("no")
```

- ○ a. found no no found
- ○ b. found found no no
- ○ c. found found

Q. 25 Given the code below, what is the output?

```
a = 3
b = 4
print( a == b)
```

- ○ a. True
- ○ b. False
- ○ c. a = 4
- ○ d. a = b

Q. 26 Given the code below, what is the output?

```
mylist = ["Joseph", "Xinwen","Claire","Seraphina", "Jennifer"]
print(mylist[1])
```

- ○ a. Joseph
- ○ b. Xinwen
- ○ c. Claire
- ○ d. Joseph Xinwen

Q. 27 Given the code below, what is the output of print(names[0])?

```
names = ["Claire", "Joseph","Xinwen", "Jennifer"]
```

- ○ a. Joseph
- ○ b. Claire
- ○ c. Xinwen
- ○ d. Jennifer

Q. 28 Given the code below, what is the output of print(names[3])?

```
names = ["Claire", "Joseph","Xinwen", "Jennifer"]
```

- ○ a. Joseph
- ○ b. IndexError: list index out of range
- ○ c. Xinwen
- ○ d. Jennifer

Q. 29 Given the code below, what is the output of print(names[4])?

```
names = ["Claire", "Joseph","Xinwen", "Jennifer"]
```

- ○ a. IndexError: list index out of range
- ○ b. Claire
- ○ c. Xinwen
- ○ d. Jennifer

Q. 30 Given the code below, what is the output of print(names[-1])?

```
names = ["Claire", "Joseph","Xinwen", "Jennifer"]
```

- ○ a. Joseph
- ○ b. Claire
- ○ c. IndexError: list index out of range
- ○ d. Jennifer

Q. 31 Given the code below, what is the output of print(names[-3])?

```
names = ["Claire", "Joseph","Xinwen", "Jennifer"]
```

- ○ a. Joseph
- ○ b. Claire
- ○ c. Xinwen
- ○ d. IndexError: list index out of range

Q. 32 Given the code below, what is the output of print(names[2])?

```
names = ["Claire", "Joseph","Xinwen", "Jennifer"]
```

- ○ a. Joseph
- ○ b. Claire
- ○ c. Xinwen
- ○ d. Jennifer

Q. 33 Given the code below, what is the output of print(names[-2])?

```
names = ["Claire", "Joseph","Xinwen", "Jennifer"]
```

- ○ a. Joseph
- ○ b. Claire
- ○ c. Xinwen
- ○ d. IndexError: list index out of range

Q. 34 Given the code below, what is the output of print(names[-7])?

```
names = ["Claire", "Joseph","Xinwen", "Jennifer"]
```

- ○ a. Joseph
- ○ b. Claire
- ○ c. Xinwen
- ○ d. IndexError: list index out of range

Q. 35 Given the code below, what is the output of print(nums[0][0])?

```
num1 = [1,2,3]
num2 = [4,5,6]
nums =[num1,num2]

print(nums[0][0])
```

- ○ a. 1
- ○ b. 20000000

Q. 36 Given the code below, what is the output?

```
mylist = [1,3,4,11,7]
print(len(mylist))
```

- ○ a. 1
- ○ b. 11
- ○ c. 5
- ○ d. 7

Q. 37 Given the code below, what is the output of print(len(names))?

```
names = ["Claire", "Joseph","Xinwen", "Jennifer"]
```

- ○ a. 4
- ○ b. 6
- ○ c. 8
- ○ d. 26

Q. 38 Given the code below, what is the output of print(max(mylist))?

```
mylist = [1,3,5,7,4]
```

- ○ a. 1
- ○ b. 7
- ○ c. 5
- ○ d. 4

Q. 39 Given the code below, what is the output of print(min(mylist))?

```
mylist = [1,3,5,7,4]
```

- ○ a. 1
- ○ b. 7
- ○ c. 5
- ○ d. 4

Q. 40 Given the code below, what is the output of print(sum(mylist))?

```
mylist = [1,3,5,7,4]
```

- ○ a. 8
- ○ b. 17

- ○ c. 19
- ○ d. 20

Q. 41 Given the code below, what is the output ?

```
value = -4
while True:
    print(value)
    value = value + 2
    if value == 2:
        break
```

- ○ a. -4,-2, 0
- ○ b. -4, -2
- ○ c. nothing printed
- ○ d.0, 2

Q. 42 Given the code below, what is the output ?

```
value = -4
while True:
    value = value + 2
    print(value)
    if value == 2:
        break
```

- ○ a. -4,-2, 0
- ○ b. -2, 0, 2
- ○ c. nothing printed
- ○ d.-2, 0

Q. 43 Given the code below, what is the output ?

```
value = -4
while True:
    value = value + 2
    if value == 2:
        print(value)
        break
```

- ○ a. nothing printed
- ○ b. -2, 0, 2
- ○ c. 2
- ○ d. 2, 0

Q. 44 Given the code below, what is the output ?

```
value = -4
while True:
    value = value + 2
    if value == 2:
        break
        print(value)
```

- ○ a. nothing printed
- ○ b. -2, 0, 2
- ○ c. 2
- ○ d. 2, 0

Q. 45 Given the code below, which one is called as the condition?

```
count = 1
while count <= 3:
    print("Count is ", count)
    count += 1
```

- ○ a. count = 1
- ○ b. count <= 3
- ○ c. count
- ○ d. count += 1

Q. 46 Given the code below, what is the output?

```
i = 10
while i <= 10:
    i = i + 2
    print(i)
```

- ○ a. nothing printed
- ○ b. 10
- ○ c. 12
- ○ d. 14

Q. 47 Given the code below, what is the output?

```
i = 9
while i < 10:
    print(i)
    i = i + 1
```

- ○ a. nothing printed
- ○ b. 9
- ○ c. 10
- ○ d. 11

Q. 48 Given the code below, what is the output?

```
mylist = [1,5,7,11,30]
value = 0

for i in mylist:
    if i > value:
        value = i
print(value)
```

- ○ a.1

- ○ b. 5
- ○ c. 30
- ○ d. 11

Q. 49 Given the code below, what is the output?

```
mylist = [1,2,3,4]
value = 0

for i in mylist:
    value = value + i
print(value)
```

- ○ a.1
- ○ b. 4
- ○ c. 10
- ○ d. 9

Q. 50 Given the code below, what is the output of print(values(1,2,3))?

```
def values(a,b,c):
    return a + b - c
```

- ○ a. 3
- ○ b. 6
- ○ c. 0
- ○ d. 1,2,3

Q. 51 Recursion is a process where a function calls itself to solve a smaller instance of the same problem until a base case is reached. Is this statement correct?

- ○ a. yes
- ○ b. no

Q. 52 Is family tree an example of recursion?

- ○ a. yes
- ○ b. no

Q. 53 Is peeling an onion an example of recursion?

- ○ a. yes
- ○ b. no

Q. 54 Given the code below, what is the output?

```
movies = ["Harry Potter","Snow White"]
for movie in movies:
    print(movie)
    print(movie)
```

- ○ a. Harry Potter Harry Potter Snow White Snow White
- ○ b. Harry Potter Snow White Harry Potter Snow White

Q. 55 Given the code below, which one is called a loop variable?

```
numbers = [1,-3,5,11]
for i in numbers:
    print(i)
```

- ○ a. numbers
- ○ b. i
- ○ c. in
- ○ d. print(i)

Q. 56 Given the code below, which one is called an iterable object?

```
numbers = [1,-3,5,11]
for i in numbers:
    print(i)
```

- ○ a. numbers
- ○ b. i
- ○ c. in
- ○ d. print(i)

Q. 57 Given mylist below, what is the index/position of 5? (Multiple correct answers)

```
mylist = [1,3,5,7,4]
```

- ○ a. 3
- ○ b. 2
- ○ c. -2
- ○ d. -3

Q. 58 Given mylist below, what is the index/position of 4? (Multiple correct answers)

```
mylist = [1,3,5,7,4]
```

- ○ a. 4
- ○ b. 5
- ○ c. 0
- ○ d. -1

Q. 59 Given the code below, what is the output?

```
numbers = [1,-3,5,11,9]
value = 0
for i in numbers:
    value= value + i
print(value/len(numbers))
```

- ○ a. sum of the numbers
- ○ b. average value of the numbers
- ○ c. maximum value of the numbers
- ○ d. minimum value of the numbers

Q. 60 Given the code below, what is the output?

```
numbers = [1,9,5,11,9]

for i in range(0,len(numbers)):
    if numbers[i] == 9:
        print(i)
```

- ○ a. 9
- ○ b. 9, 9
- ○ c. 1
- ○ d. 1, 4

Q. 61 Given mylist, write a for loop to find the minimum value of the mylist below.

mylist = [1, 5, 7, 9, 0, 3]

Write your code below.