

CS 112 – Summer 2022

Midterm Review - Exercises



Part 1: Questions 1 to 5

T/F questions

1. $(x * y) / 2$ is an example of an expression

A. True

B. False

2. The following code prints `[2, 3, 4]` when is run

```
xs = [1, 2, 3, 4, 5]
print(xs[-4:4])
```

A. True

B. False

3. After the following code is executed, the final value of `x` is 32

```
x = 15
x = x + 1
x = x * 2
x = 30 - x
```

A. True

B. False

4. The following code prints 23rd when the following code is executed

```
day = 23
if day % 10 == 1:
    ending = "st"
elif day % 10 == 2:
    ending = "nd"
elif day % 10 == 3:
    ending = "rd"
else:
    ending = "th"
print(str(day) + ending)
```

A. True

B. False

5. The body of the loop below will execute 7 times

```
number = 70
guess = 55
while number != guess:
    if number > guess:
        guess = guess + 10
    else:
        guess = guess - 1
print('The number is:', guess)
```

A. True

B. False

Part 2: Questions 6 to 20**Multiple Choice questions**

6. After the program runs, what is the value of y?

```
def print_sum(num1, num2)
    print(num1 + num2)
y = print_sum(4, 5)
```

- A. 4 5
- B. 9
- C. 45
- D. None

7. Which of the following identifiers is valid?

- A. _123
- B. 32area
- C. transfer\$
- D. pass

8. What is the value of x after the following code is executed?

```
x = 17
if x * 2 <= 34:
    x = 0
else:
    x = x + 1
x = x + 1
```

- A. 1
- B. 18
- C. 19
- D. 35

9. A child is required to use a booster seat in a car until the child is 9 years old, unless the child reaches the height of 59 inches before age 9.

Which expression can be used to decide if a child requires a car seat or not?

- A. if age < 9 or height < 59:
- B. if age >= 9 or height >= 59:
- C. if age >= 9 and height >= 59:
- D. if age <= 9 and height <=59:

10. Grover Cleveland served as president of the United States from 1885 to 1889 and from 1893 to 1897. Which expression correctly detects this range?

- A. (1885 < x < 1889) or (1893 < x < 1897)
- B. (1885 <= x <= 1889) or (1893 <= x <= 1897)
- C. (1885 <= x <= 1889) and (1893 <= x <= 1897)
- D. (1885 < x <= 1889) or (1885 < x <= 1889)

11. Excess indentation must be removed from which lines to make the code correct?

```
1. print('start')
2.     if x > 10:
3.         print('large')
4.     else:
5.         print('small')
6. print('done')
```

- A. 1, 6
- B. 1, 2, 3
- C. 2, 3, 4
- D. 2, 4, 5

12. What is the output?

```
count = 0
while count < 3:
    print('loop', end=' ')
count = count + 1
print('final value of count:', count)
```

- A. loop final value of count: 1
- B. loop loop loop final value of count: 3
- C. loop loop loop loop final value of count: 4
- D. loop loop loop loop ... #this answer means an infinite loop

13. How many times does the while loop execute for the given input values of -1 4 0 9?

```
user_num = 3
while user_num > 0:
    # Do something
    user_num = int(input())
```

- A. 0
- B. 1
- C. 2
- D. 3

14. What sequence is generated by range(1, 10, 3)?

- A. 1 4 7
- B. 1 11 21
- C. 1 3 6 9
- D. 1 4 7 10

15. Which range() function call generates every even number between 20 and 30 (including both 20 and 30)?

- A. range(20, 30, 2)
- B. range(20, 31, 2)
- C. range(30, 20, 2)
- D. range(20, 22, 24)

16. Which expression using parentheses is equivalent to the following expression:

$x - y * -z / 3$

- A. $(x - y) * ((-z) / 3)$
- B. $x - ((y * (-z)) / 3)$
- C. $x - (y * ((-z) / 3))$
- D. $(x - (y * (-z))) / 3$

17. Which print statement would display: I won't quit!

- A. `print('I won\\'t quit!')`
- B. `print('I won't quit!')`
- C. `print('I won\\'\\t quit!')`
- D. `print('I won\\'t quit!')`

18. What is the output?

```
num = 10;
while num <= 15:
    print(num, end=' ')
    if num == 12:
        break
    num += 1
```

- A. 10
- B. 10 11
- C. 10 11 12
- D. 10 11 12 13 14 15

19. What is the output?

```
for i in range(11):
    if i == 6:
        continue
    else:
        print(i, end=' ')
```

- A. 0 1 2 3 4 5
- B. 0 1 2 3 4 5 6
- C. 0 1 2 3 4 5 7 8 9
- D. 0 1 2 3 4 5 7 8 9 10

20. What is output?

```
new_list = ['python', 'development']
new_list.append('in progress')
print(new_list)
```

- A. `['python', 'development', 'in progress']`
- B. `['python', 'development', ['in progress']]`
- C. `['python', 'in progress']`
- D. `['python', 'developmentin progress']`