

CPTS 111 — EXAM #1

Closed Book/One Page of Notes
No electronic devices of any kind!

Directions:

1. **For multiple choice questions, circle your answer. Only one answer is correct.**
2. **Each non-coding question is worth 2 points; points for coding questions vary.**
3. **Read each question carefully and check your work if you finish early!**
4. Breathe in deeply, exhale slowly, and relax.
5. No hats or sunglasses may be worn during the exam.
6. Do not look at anyone else's exam or let anyone else look at yours!
7. Be neat! If we can't read what you've written, we can't give you credit!
8. If an answer is a `float`, make it clear by using a decimal point.
9. If an answer is an integer, make it clear by *not* using a decimal point.
10. If an answer should be in quotes, then use quotes.
11. **When writing code, indent clearly when you should indent.**
12. When writing code, do your best to indicate what you can do even if you can't do everything.
13. **When coding, be sure to use the prompts shown in the examples.**

1. Given the following, what is the final value of num_scones?

```
num_scones = 6
num_scones_eaten_by_shira = 6
num_scones -= num_scones_eaten_by_shira
```

- (a) 0
- (b) 2
- (c) 4
- (d) None of the above

2. Which of the following names is incorrect?

- (a) _2_to_tango
- (b) num_peeps
- (c) x
- (d) None of the above

3. Where is an lvalue placed?

- (a) To the right of the assignment operator
- (b) To the left of the assignment operator
- (c) Either to the left or right of the assignment operator
- (d) In no particular location

4. In the following code, what is += known as?

```
i = 5
i += 1
```

- (a) operator overloading
- (b) augmented assignment
- (c) concatenation
- (d) None of the above

5. Given the following, what is the value of rem?

```
dozens, rem = divmod(24, 12)
```

- (a) 0
- (b) 1
- (c) 2
- (d) None of the above

6. What is the output of the following code?

```
name = 'Game of Thrones'  
print('Have you watched the', name, 'series?')
```

- (a) Have you watched the 'Game of Throne' series?
- (b) Have you watched the Game of Thrones series?
- (c) Have you watched theGame of Thronesseries?
- (d) None of the above

7. What is the output of the following code?

```
gamma = int('1.618')  
print(f'The value of gamma is {gamma}.')
```

- (a) The value of gammma is 1.618.
- (b) The value of gamma is 1.
- (c) The value of gamma is '1'.
- (d) None of the above

8. What is the output of the following code?

```
import math as m  
y = m.sqrt(9) + m.sqrt(9)
```

- (a) 3
- (b) 6
- (c) 6.0
- (d) None of the above

9. What is the output of the following code?

```
word = 'COVID-19'  
print(word[-1])
```

- (a) COVID-1
- (b) 9
- (c) wor
- (d) None of the above

10. Dictionaries are mutable.

- (a) True
- (b) False

11. `print(4 * '4')` results in which of the following?

- (a) `'16'`
- (b) `16`
- (c) `4444`
- (d) None of the above

12. Logical/Boolean operators have higher precedence than comparison/relational operators.

- (a) True
- (b) False

13. What is the output of the following code?

```
year = 2022
print('Happy', year, '!', sep='')
```

- (a) `Happy2022!`
- (b) `Happy 2022!`
- (c) `Happy 2022 !`
- (d) None of the above

14. What are 0's and 1's called?

- (a) switches
- (b) transistors
- (c) binary digits (or bits)
- (d) compilers

15. What is the output of the following code?

```
x = 12
y = 10
if y >= 10 and x < 10:
    print('A')
elif y < 10 or x > 12:
    print('B')
else:
    print('C')
```

- (a) A
- (b) B
- (c) C
- (d) None of the above

16. Given the following code, what is the type of integer?

```
integer = input('Enter an integer: ')
```

- (a) string
- (b) integer
- (c) float
- (d) None of the above

17. For the following code, what are the value and type of integer?

```
integer = int(float(str(1.618)))
```

- (a) 1 and int
- (b) 1 and string
- (c) 1.618 and float
- (d) None of the above

18. How many unique items can be represented with 3 bits?

- (a) 3
- (b) 6
- (c) 8
- (d) 9

19. What is the value of result?

```
result = 4 * 2 // 6 * 0 + 2 ** 2
```

- (a) 0
- (b) 4
- (c) 5
- (d) None of the above

20. What is the output of the following code?

```
pi = 3.141592653  
print(f'The value of pi is {pi:0.4f}.')
```

- (a) The value of pi is 3.141592653.
- (b) The value of pi is 3.1415.
- (c) The value of pi is 3.1416.
- (d) None of the above

21. For `value = chr(ord(66))`, value is 66.

- (a) True
- (b) False

22. What is the output of the following code?

```
names = ['Ali', 'Bea', 'Cao', 'Dom', 'Emi']
print(f'Hi, {names[1]}!')
```

- (a) Hi, Ali!
- (b) Hi, Bea!
- (c) Hi, Emi!
- (d) None of the above

23. What is the output of the following code?

```
primes = [2, 3, 5, 7, 11]
primes.append(13)
print(primes)
```

- (a) [2, 3, 5, 7, 11]
- (b) [2, 3, 5, 7, 13]
- (c) [2, 3, 5, 7, 11, 13]
- (d) None of the above

24. What is the output of the following code?

```
if 0:
    print('True')
else:
    print('False')
```

- (a) True
- (b) False
- (c) Neither of the above

25. Which of the following statements results in the text: I'm a proud Cougar!?

- (a) `print('I\'m a proud Cougar!')`
- (b) `print(`I'm a proud Cougar!')`
- (c) Either of the above
- (d) None of the above

26. What is the output of the following code?

```
x = 10
y = 9
if x < y and x % 2 == 0 or y % 3 == 0:
    print('True!')
```

- (a) True!
- (b) Nothing
- (c) Neither of the above

27. Given the following code, what is the value of `whole`?

```
whole, rem = 14 // 6.0, 14 % 6.0
```

- (a) 1
- (b) 2
- (c) 3
- (d) None of the above

28. `\n` and `\t` are ASCII characters that create whitespace.

- (a) True
- (b) False

29. What is the output of the following code?

```
nums = [1, 1, 1, 1, 1]
avg = sum(nums) / len(nums)
print(avg)
```

- (a) 1
- (b) 1.0
- (c) 5.0
- (d) None of the above

30. In Python, fractions are more accurately represented than integers.

- (a) True
- (b) False

31. [3 pts] Write the simplest print statement (a single line of code) to obtain the following output:

```
Python rocks!
```

32. [3 pts] Write a single line of code to initialize an empty list called `names`.

33. [3 pts] Given `x`, write an `if` statement which uses **operator chaining** to test to determine whether `x` is greater than 50 and less than or equal to 100. Don't forget the colon!

34. [6 pts] Write code to 1) create a list called `odds` that contains, in order, the integers 1, 3, 5, 7, and 9, 2) add the integer 11 to the end of the list, 3) change the first element of the list to 13, and finally 4) sort the list.

35. [6 pts] Write code to 1) initialize an empty dictionary called `fruits`, 2) add the key-value pairs `'grapes': 2.39`, `'apples': 1.09`, and `'pears': 1.29` to the dictionary, and 3) change the value of `'apples'` to 1.39.

36. [6 pts] Calculate the number of years, months, and days in 4,542 days using the `divmod()` function or else floor division and the modulo function, and print the results using f-string string formatting to obtain the output shown below. Assume there are 365 days in a years and 30 days in a month.

4,542 days is 12 years, 5 months, and 12 days.

37. [6 pts] Prompt the user for the `cost` of the meal (a float), the `percent tax` (a float), and the `percent tip` (a float) as shown below. Then calculate the `total` amount to be charged to their credit card. Use f-string formatting to print the output as shown below. Separate the input and output by a blank line. **The output shown is for the input given in boldface font.**

Enter `cost` of meal: **100.00**

Enter `percent tax`: **7.8**

Enter `percent tip`: **20**

Total to be charged: \$127.80

38. [7 pts] Use an `if-elif-else` construct to determine whether `num` is even and divisible by 7, odd and divisible by 7, or neither. If even and divisible by 7, print `Your number is even and divisible by 7.`, if odd and divisible by 7, print `Your number is odd and divisible by 7.`, or else print `Your number is not divisible by 7.`
