

Python Programming

Chapter 7 Exam – “Numeric and Date Functions”

1. Which of the following objects represents a difference between two date, time or datetime objects?

- a. **timedelta**
- b. date
- c. datetime
- d. diff

2. When creating a date, time or datetime object, which integer parameter should range between 1 and 12?

- a. **month**
- b. day
- c. year
- d. minute

3. Given the line of code below, which of the following statements will display the value of that date object in a simple, default format?

```
myDate = datetime.date(2001,3,16)
```

- a. print(myDate)
- b. print("Date = ", myDate)
- c. print("Date = ", myDate.ctime())
- d. **All of these will work**

4. Given the line of code below, which of the following statements will successfully display the day of the week on which the date falls (e.g. "Monday")?

```
myDateTime = datetime.datetime(2004,1,19,13,30,0)
```

- a. `print(myDateTime.strftime("%A"))`
- b. `print(myDateTime.dayOfWeek())`
- c. `print(myDateTime.strftime("%Monday"))`
- d. `print(myDateTime.extract("A"))`

5. The `datetime.strftime()` function is capable of creating a string in which of the following styles?

- a. Monday, January 19, 2004
- b. Mon Jan 19 13:30:00 2004
- c. 2004-01-19 01:30:00 PM
- d. All of these and more

6. What is printed to the screen when the following code is run?

```
dt1 = datetime.datetime(2022, 9, 1)
```

```
dt2 = datetime.datetime(2020, 6, 1)
```

```
if (dt1 < dt2 ):
```

```
    print("dt2 is greater")
```

```
else:
```

```
    print("dt1 is greater")
```

- a. dt1 is greater
- b. dt2 is greater
- c. Nothing is printed at all
- d. Error - cannot use the less-than operator (<) to compare two datetime values

7. A timedelta object does NOT contain which of the following properties?

- a. years
- b. days
- c. seconds
- d. microseconds

8. Which of the following statements will successfully initialize a timedelta object?

- a. myDelta = datetime.timedelta(days=10)
- b. myDelta = datetime.timedelta(days=10, hours=20, minutes=40)
- c. myDelta = datetime.timedelta(minutes=10, seconds=30)
- d. All of these will work

9. What will be printed to the screen when the following code is run?

```
now = datetime.datetime.now()
```

```
print(now)
```

- a. The current year, month, day, hour, minute and second in some default format
- b. The current year, month and day only in some default format
- c. The current hour, minute and second only in some default format
- d. The string "now"

10. What is the purpose of the "myTimezone" object in the following code?

```
myOffset = datetime.timedelta(hours=-5)
```

```
myTimezone = datetime.timezone(myOffset)
```

```
now = datetime.datetime.now(myTimezone)
```

- a. To help produce a time that is adjusted -5 hours to reflect the local time zone offset from UTC
- b. To help produce a time as if you were currently located in England
- c. To ensure that "AM" or "PM" is correctly stored in the current time object
- d. The timezone has no impact on the resulting datetime object

11. Which of the following statements will let you use the random library functions in your code?

- a. `import random`
- b. `use random`
- c. `random.randrange()`
- d. `rand`

12. Which of the following best describes the output from the following function call?

```
rand = random.randrange(10,15)
```

- a. A random integer from 10 up to (but not including) 15
- b. A random floating point value from 10.0 up through and including 15.0
- c. A random integer in the range 10 up to (and including) 15
- d. A random integer from 0 up to (but not including) 5

13. What can you confidently say about the following code?

```
random.seed(1)
```

```
print(random.randrange(0,10))
```

- a. It will print exactly the same value each time the code is run
- b. It will produce a random integer from 0 up through (but not including) 10
- c. It will produce a random integer from 0 up through (and including) 10
- d. The first random number produced will always be 1

14. Given a list named "mystery", which of the following expressions will return a random element in that list?

- a. `random.choice(mystery)`
- b. `mystery.choice()`
- c. `mystery.random()`
- d. `random(mystery)`

15. Given the code below, which of the following answers represents a possible printed output?

```
mystery = ["A", "B", "C"]
```

```
random.shuffle(mystery)
```

```
print(mystery)
```

- a. ['C', 'A', 'B']
- b. ['C', 'A']
- c. ['A']
- d. All of these are possible

16. Which of the following expressions will return a random floating point value between 0.0 and 1.0?

- a. random.random()
- b. random.randrange(0,1)
- c. random.distribute(0.0, 1.0)
- d. random.float(0, 1)

17. Which of the following is NOT a standard function in the Python Math library?

- a. math.calculate()
- b. math.floor()
- c. math.fabs()
- d. math.factorial()

18. Which math library function would you use to add together the values in all elements of an input list?

- a. Raise a number to a power and take the square root of a number
- b. Find the trigonometric sine, cosine or tangent of an angle
- c. Find the absolute value or factorial of a number
- d. All of these and more

19. Which of the following describes something you can do with the Python math library?

- a. Raise a number to a power and take the square root of a number
- b. Find the trigonometric sine, cosine or tangent of an angle
- c. Find the absolute value or factorial of a number
- d. All of these and more

20. Which of the following statements shows the correct way to call the core math function "round", which is not part of the Python math library?

- a. `answer = round(5.5)`
- b. `answer = math.round(5.5)`
- c. `answer = round[5.5]`
- d. `answer = round.math(5.5)`