CIS 122 Spring 2017
Midterm Exam

(1-5) (1 pt. each) What is the result when the following expressions are entered into the Python Shell?

1) >>> 2 // 3 * 2
   a) 0  b) 1/3  c) .3333  d) 2

2) >>> 7 % 3
   a) 0  b) 1  c) 2  d) 2.3333

3) >>> 'kayak'[2:5]
   a) 'ayak'  b) 'aya'  c) 'yak'  d) 'kayak'

4) >>> int(99.9)
   a) 0  b) 1  c) 99  d) 99.9

5) >>> len('')
   a) 0  b) 1  c) 2  d) IndexError

6) (2 pts.) What is the value of x after the following Python code is executed:

   >>> x = 0
   >>> x = x + 2
   >>> x += 3

   a) 2  b) 3  c) 5  d) SyntaxError

7) (1 pt.) Which are steps in computational problem solving?

   a) thoroughly understand task or problem
   b) use, revise, or develop (an) algorithm(s) to solve the problem
   c) write code that implements the algorithm(s)
   d) write poetry
   e) run (execute) a program to achieve the desired outcome

   a) a, c, e  b) b, d  c) a, b, c, e  d) c, e
8) (1 pt.) An example of a Python built-in function is
(a) `len`  (b) `int`  (c) `pow`  (d) all of these

9) (1 pt.) What is the result when the following code is entered into the Python Shell:

```python
>>> round(abs(-2 ** 2) + .5)
```

a) 4  b) -4  c) 5  d) -5

10) (1 pt.) What is the result when the following code is executed in the Python Shell:

```python
>>> time = input('Please enter your race time: ')
Please enter your race time: 60
>>> time / 2
```

a) '60'  b) 60  c) 30  d) 30.0  e) `TypeError`

11) (1 pt.) and then:

```python
>>> time
```

a) '60'  b) 60  c) 30  d) 30.0  e) `TypeError`

12) (1 pt.) What is the result when the following code is entered in the Python Shell:

```python
>>> time = int(input('Please enter your race time: '))
Please enter your race time: 60
>>> time / 2
```

a) '60'  b) 60  c) 30  d) 30.0  e) `TypeError`

13) (1 pt.) and then:

```python
>>> time
```

a) '60'  b) 60  c) 30  d) 30.0  e) `TypeError`

14) (1 pt.) `time / 2` is a Python

a) expression  b) assignment statement  c) variable  d) none of these
Given the following Python code, what is printed?

```python
astr = 'yellow' + 'green'
result = 0
for letter in astr:
    result += 1
print(result)
```

a) 10  b) 11  c) 12  d) yellowgreen  e) NameError

(16-19) (1 pt. each) When the following is entered into the Python shell, what does Python print?

16) >>> greeting = 'Ciao'

a) nothing is printed  b) 'Ciao'  c) 'greeting'  d) NameError

17) >>> greeting

a) nothing is printed  b) 'Ciao'  c) 'greeting'  d) NameError

18) >>> 'greeting'

a) nothing is printed  b) 'Ciao'  c) 'greeting'  d) NameError

19) >>> Ciao

a) nothing is printed  b) 'Ciao'  c) 'greeting'  d) NameError

20) (1 pt.) When the following Python code is executed, what is printed?

```python
s = 'CIS122'
for letter in s:
    count = 0
    count += 1
print(count)
```

a) 0  b) 1  c) 6  d) 8

21) (1 pt.) This is an example of what kind of error?

a) SyntaxError  b) TypeError  c) NameError  d) logic error
22) (1 pt.) What will be printed when the following Python code is executed in the Shell?

```python
>>> pow(2, 4)
```

a) 16  b) <built-in function pow>  c) NameError  d) <class 'int'>

23) (1 pt.) What will be printed when the following Python code is executed in the Shell?

```python
>>> pow
```

a) 16  b) <built-in function pow>  c) NameError  d) <class 'int'>

24) (1 pt.) Which is correct?

```python
>>> 4 // 3  >>> 4 ^ 2  >>> 4 % 3  >>> 4 ** 2
```

1.3  16  1.0  16

25) (1 pt.) What are the values of a, b, and c after the following code is entered into the Python Shell?

```
>>> a = 101
>>> b = a
>>> c = b // 10
>>> a += 1
```

a) 101, 101, 10  b) 102, 101, 10  c) 1, 100, 10.0  d) 102, 102, 10.0

26) (2 pts.) Recall that the temperature in degrees Celsius (tc) is obtained by subtracting 32 from the Fahrenheit temperature (tf), then multiplying that number by 5/9. Which Python expression correctly converts a Fahrenheit temperature to the corresponding Celsius temperature?

a) \( tc = tf - 32 \times \frac{5}{9} \)  b) \( tc = (tf - 32) \times \frac{5}{9} \)

c) \( tc = (tf - 32) \times \frac{5}{9} \)  d) \( tc = (tf - 32) \times \frac{5}{9} \)

27) (2 pts.) When the following Python code is executed, what is printed?

```python
astr = 'The end.'
newstr = ''
for ch in astr:
    newstr += ch + ' ' 
print(newstr)
```

a) nothing is printed  b) TThhee eennnd..  c) T h e e n d .  d) IndexError