1. Consider the following code segment:

```
li = ["I", "can't", "fix", "printers"]
start = 0, end = len(li)
for item in li:
        if len(item) % 2:
                start += 1
                end -= 1
        else:
                start -= 1
                end += 1

print(li[start:end])
```

Assume this code is loaded up and executed, what is the output?

a. ['fix']
b. ['can't', 'fix']
c. []
d. Nothing is printed to the terminal
e. There is an error in the code

2. What is the value stored in x after the following code:

```
x = (2023 - 23) % 2 * 29 / 5 + 32
```

a. 95.0
b. 32
c. 32.0
d. 67
e. Cannot be determined

Explanation: This question tests your ability to apply the order of precedence (Operator Precedence in Python - Python Geeks) This plus the fact we are using floating point division '/' yields 32.0

3. This one is easy! What is the type of foo after running the following code:

```
foo = {}
```

a. List
b. DefaultDict
c. Set
d. Dictionary
e. We don't know until we populate it

Explanation: This is just lecture recall, you were taught that the default type when using the {} is a dictionary

4. What is the value of x after the following code executes:

```python
def foo(a, b):
    while a <= b:
        a += 1 #a = a + 1
        b -= a
    return a*b

x = print(foo(5,7))
```

a. 35
b. 6
c. 42
d. "6"

1. Consider the following code block, what is the output?

```
li = [x for x in range(15)]
foo = [True if x % 2 else False for x in li]
print(sum(foo))
```

    a. True
    b. False
    c. 120
    d. None of the above
    e. There is an error in the program

Explanation: The first list comprehension gives us the list [0,1,2,3,4,5,6,7,8,9,10,11,12,13,14] the second list comprehension replaces all even values with False and odds with True yielding: [False,True,False,True,False,True,False,True,False,True,False,True,False,True,False] Treating, True as 1 and 0 as False we get a sum of 7 which means it is None of the above.

2.
Consider the following code fragments:

```
#in file1.py
x = 5
if(x < 10):
    x += 4
    x *= 2
print(x)
```

```
#in file2.py
x = 5
if(x < 10):
    x += 4
x *= 2
print(x)
```

What is the output in each of these files?
    a. File 1: 18   File 2: 9
    b. File 1: 9   File 2: 18
    c. File 1: None File 2: 18

3. What is the definition of Computer Science?
   a. The study of algorithms including their mathematical properties, their linguistic realizations, their physical realizations, and their applications.
   b. The application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software, and the study of these approaches
   c. The activity of using or creating algorithmic processes to complete some task.
   d. A well-ordered sequence of operations that produce a result and halt in a finite amount of time.
   e. I wasn't enrolled by lecture 2

Explanation: One of the preliminary definitions provided during Lecture 2

4. Let's see if you're paying attention! Consider the following:

```
dict = {0:1, 1:2, 2:0}
print(dict[dict[dict['0']]])
```

What is the output to the console if I were to run this?
   a. "1"
   b. "0"
   c. 0
   d. 2
   e. None of the above

Explanation: All keys are ints while we try to use a key which is a string, this results in a KeyError so None of the above.