CSCI 141
Computer Programming I

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How this works ...

Practice Questions
4 sets

- Set A: 30 seconds for each question
- Set B: 1 minute for each question
- Set C: 2 minutes for each question
- Set D: 5 minutes for each question

All questions refer to python syntax and grammar
How this works ...

Set A: 30 seconds for each question
Set A : Q1

True or False  A variable can be originally assigned to refer to an integer, and then “reassigned” to refer to a String.
The code on the right will print to the screen “Hello” how many times?

```python
for loopCount in range(0, 3456):
    print("Hello")
```
Fill in the blank: _______ is the term used to specify that the contents of a String object, once created, cannot be modified.
Free response: What does the `in` operator do if both the operands are strings?
### True or False
A variable can be originally assigned to refer to an integer, and then “reassigned” to refer to a String.

### The code on the right will print to the screen “Hello” how many times?
```python
for loopCount in range(0,3456):
    print("Hello")
```

### Fill in the blank
_______ is the term used to specify that the contents of a String object, once created, cannot be modified.

### Free response
What does the `in` operator do if both the operands are strings?
How this works ...

Set B : 1 minute for each question
Free Response  What is the binary equivalent of the base 10 number 2,222?
What is the output of the program on the right?

```python
itms = {"bks":['bio','calc'], "prfs":['123','kep']}
for pair in itms :
    print(itms[pair])
```
What is the output of the program on the right?

```
print(float(len(str(42)+"3")%4))
```
The two pieces of code on the right output the same thing

```
for x in range(0, 500):
    if x == 2:
        break
    print("CS")

myC = -3
while (myC < 0):
    print("CS")
    myC = myC + 1
```
What does the code on the right print to the screen?

```python
fourItems = ["c", "sci", "1"]
binding = "141"
print(binding.join(fourItems))
```
Set B: Answers (on the board discussion)

**Free Response**

**What is the binary equivalent of the base 10 number 2,222?**

\[
\text{binary equivalent of 2,222}
\]

**What is the output of the program on the right?**

```python
itms = {"bks":["bio","calc"], "prfs":["123","kep"]}
for pair in itms:
    print(itms[pair])
```

**What is the output of the program on the right?**

```python
print(float(len(str(42)+"3")%4))
```

**The two pieces of code on the right output the same thing**

```python
for x in range(0,500):
    if x == 2:
        break
    print("CS")
myC= -3
while(myC < 0):
    print("CS")
    myC = myC + 1
```

**What does the code on the right print to the screen?**

```python
fourItems = ["c", "sci", "1"]
binding = "141"
print(binding.join(fourItems))
```
Set C: 2 minutes for each question
Free Response. Write the python code that corresponds to the logic flow diagram on the right.
How many times is the function `calcPower` invoked in the code on the right?

```python
def calcPower(firstInput):
    result = firstInput ** firstInput
    return result

def calcDifference(input1, input2):
    calculation = input1 // input2
    calculation = calculation + calcPower(input2)
    return calculation

firstOutput = calcDifference(2, calcPower(1))
secondOutput = calcDifference(calcPower(2), calcPower(1))
```
Free Response. Write the python code that corresponds to the logic flow diagram on the right.

How many times is the function `calcPower` invoked in the code on the right?

```python
def calcPower(firstInput):
    result = firstInput ** firstInput
    return result

def calcDifference(input1, input2):
    calculation = input1 // input2
    calculation = calculation + calcPower(input2)
    return calculation

firstOutput = calcDifference(2, calcPower(1))
secondOutput = calcDifference(calcPower(2), calcPower(1))
```
Set D: 5 minutes for each question
Free Response

Write a function `sumSquares()` with a single parameter `nums`. The function computes the sum of the squares of the number elements (int or float) in the list `nums`. For example, `sumSquares([2, 3.0, "88", 4, "a"]` should compute 4+9+16 and return 29. Assume `nums` will not contain sublists.
Write a function `myParser` whose only argument is a String that is the name of a file that exists. The function should read the content of the file, which is a plain-text file, and return the number of words in that file that have 6 or more characters. Assume that words in the file are separated by white spaces.

For the sample file shown left, `print(myParser("aFile.txt"))` would output 2
Free Response

Write a function `reverseMe`, that has a single parameter, which is a String. The function should return a String that is the reverse of the argument that the function receives. You CANNOT use the `reverse` function that is provided in python.
For example `reverseMe("Filip")` would return `piliF`
Set D : Answers (on the board discussion)

Free Response  Write a function `sumSquares()` with a single parameter `nums`. The function computes the sum of the squares of the number elements (int or float) in the list `nums`. For example, `sumSquares([2, 3.0, "88", 4, "a"])` should compute 4+9+16 and return 29. Assume `nums` will not contain sublists.

Free Response  Write a function `myParser` whose only argument is a String that is the name of a file that exists. The function should read the content of the file, which is a plain-text file, and return the number of words in that file that have 6 or more characters. Assume that words in the file are separated by white spaces.

Free Response  Write a function `reverseMe`, that has a single parameter, which is a String. The function should return a String that is the reverse of the argument that the function receives. You CANNOT use the `reverse` function that is provided in python. For example `reverseMe("Viking")` would return `gnikiV`
Thanks and good luck on the exam