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15-112 Spring 2019 Quiz 3
Up to 20 minutes. No calculators, no notes, no books, no computers. Show your work!
Do not use lists, dictionaries, try/except, or recursion on this quiz.

1. (40 points) **Code Tracing**: Indicate what the following program prints. Place your answer (and nothing else) in the box next to the code.

```python
def ct(s):
    res = ""
    tmp = 0

    for c in s:
        if c.isdigit():
            res += str(int(c)+1)
            tmp += int(c)
    print("1", res, tmp)

    for c in s[1:5:2]:
        res += c
        if c.isdigit():
            tmp -= int(c)
    print("2", res, tmp)

    d = chr(ord('A') + tmp)
    print("3", d)
    print("4", s.count(d))

    print("5", s[-4])

    return len(res)

print(ct("28AQ3TG1G"))
```

2. (20 points) **Reasoning Over Code**: Find an argument (the value of s) for the following function that makes it return True. Place your answer (and nothing else) in the box below the code:

```python
def myFunc(s):
    res = ""
    for i in range(len(s)//2):
        res += s[i]
        res += s[len(s)//2+i]
    return res

def roc(s):
    if type(s) != str or len(s) != 6:
        return False
    v = myFunc(s)
    return v == "112rox"
```

3. (40 points) **Free Response**: Write the function `caseChanger(s)` which takes a string, `s`, and returns a case-changed version of the string. Whenever you encounter a `_` in the string, this tells you that the letters after it need to have the opposite case of the ones before it. Initially you are converting characters to lowercase. Consider the following example:

`caseChanger("Hi_ThErE_mY_nAmE_iS_bOb")`

returns

`"hiTHEREmyNAMEisBOB"`

You may assume that `s` will only contain letters and `_`.