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Test 1

CMU 15-112 Schedule Summer 2020

5. Code Tracing [11 points]

What does the following code print?

Be certain to show your work, and also very clearly circle your answer!

```
def f(s):
    a = s[0]
    b = s[-1]
    return chr(ord(a) + int(b))


def ct1(s):
    t = ''
    for i in range(len(s)):
        if s[i].isupper():
            t += f ( s [ i : i + 2 ] )
        elif s[i].isdigit():
            t += s [ i -1 : i + 2 : 2 ][ : : - 1 ]
        else:
            t += '.\n'
    return t


print(ct1("aB1C2xD3"))
```

8. Bonus [2 points]

What input makes the following function return True? Be certain to show your work, and also very clearly circle your answer!

```
def f(n, c):
    if n < 0: return c
    return f ( n - 1, c+1/2**n )
```

```
def bonusRC(n):
    return almostEqual(n,  f ( 100, 0 ) )
```