BIS 420 PROGRAMMING FOR DATA SCIENCE

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CHAPTER 8 EXERCISE 8.11

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The following functions are all intended to check whether a string contains any
lowercase letters, but at least some of them are wrong. For each function, describe what the
function
actually does (assuming that the parameter is a string).

```
def any_lowercase1(s):
for c in s:
if c.islower():
return True
else:
return False
def any_lowercase2(s):
for c in s:
if 'c'.islower():
return 'True'
else:
return 'False'
def any_lowercase3(s):
for c in s:
flag = c.islower()
return flag
def any_lowercase4(s):
flag = False
for c in s:
flag = flag or c.islower()
return flag
def any_lowercase5(s):
for c in s:
if not c.islower():
return False
return True
```

Answer:

```python
def any_lowercase1(s):
    for c in s:
        if c.islower():
            return True
        else:
            return False
```

This function checks the first character of the string s. If the first character is lowercase, it returns True. Otherwise, it returns False. It does not check the rest of the string.

```python
def any_lowercase2(s):
    for c in s:
        if 'c'.islower():
            return 'True'
        else:
            return 'False'
```

This function always returns 'True' because the string 'c' is always lowercase. It does not check any characters in the input string s.

```python
def any_lowercase3(s):
    for c in s:
        flag = c.islower()
        return flag
```

This function checks only the first character of the string s. It sets flag to True if the first character is lowercase, otherwise it sets flag to False. It then immediately returns the value of flag, without checking the rest of the string.

```python
def any_lowercase4(s):
    flag = False
    for c in s:
        flag = flag or c.islower()
    return flag
```

This function correctly checks if there is any lowercase letter in the string s. It iterates through each character in the string and sets flag to True if any character is lowercase. It returns True if any lowercase letter is found, otherwise it returns False.

```
def any_lowercase5(s):
    for c in s:
        if not c.islower():
            return False
    return True
```
This function checks if all characters in the string s are lowercase. If it finds any character that is not lowercase, it returns False. If all characters are lowercase, it returns True.

```
 /usr/local/bin/python3 "/Users/prajaktapohare/Library/CloudStorage/OneDrive-ILStateUniversity/BIS420/Week 8/BIS420_PrajaktaPohare_Ch8_8.11_Input.py"
● → BIS420 /usr/local/bin/python3 "/Users/prajaktapohare/Library/CloudStorage/OneDrive-ILStateUniversity/BIS420/Week 8/BIS420_PrajaktaPohare_Ch8_8.11_Input.py"
○ → BIS420
```