Recall the following recursive function, reverser(), that reverses a string.

Graphical user interface, text, application

Description automatically generated

**Discussion 1**

Based on the reverser() function that we already know, develop a function called reverseAndRepeat(a\_str, num) that reverses the a\_str string and repeats each character in a\_str for num times. For example,

myStr = “ABC”

str1 = reverseAndRepeat(myStr, 2)  
str2 = reverseAndRepeat(myStr, 3)  
  
print(str1) **# CCBBAA**print(str2) **# CCCBBBAAA**

def reverser(a\_str):  
 if len(a\_str) == 1:  
 return a\_str  
  
 else:  
 new\_str = reverser(a\_str[1:]) + a\_str[0]  
 return new\_str  
  
def reverseAndRepeat(a\_str, num):  
 if len(a\_str) == 1:  
 return a\_str  
  
 else:  
 new\_str = reverser(a\_str[1:]) + a\_str[0]  
 endstr = ""  
 for i in new\_str:  
 a = i\*num  
 endstr += a  
 return endstr  
  
a\_str = "AfDo"  
str1 = reverseAndRepeat(a\_str, 4)  
  
print(str1)

**Discussion 2**



Based on the reverser() function that we already know, develop a function called reverseAndOppositeCase(a\_str) that reverses the a\_str string and changes each character to its opposite case. For example,

myStr = “AbCdE”

str1 = reverseAndOppositeCase(myStr)  
  
print(str1) **# eDcBa**

def reverser(a\_str):  
 if len(a\_str) == 1:  
 return a\_str  
  
 else:  
 new\_str = reverser(a\_str[1:]) + a\_str[0]  
 return new\_str

def reverseAndOppositeCase(a\_str):  
 if len(a\_str) == 1:  
 return a\_str  
  
 else:  
 new\_str = reverser(a\_str[1:]) + a\_str[0]  
 endstr = ""  
 for i in a\_str:  
 if i.isupper() == True:  
 a = i.lower()  
 endstr += a  
 else:  
 b = i.upper()  
 endstr += b  
 return endstr  
  
a\_str = "AfVsmofpDo"  
str1 = reverseAndOppositeCase(a\_str)  
  
print(str1)

**Discussion 3**



Based on the reverser() function that we already know, develop a function called symmetricString(a\_str) that makes a symmetric string, in which a\_str is its prefix. For example,

myStr = “AbCdE”

str1 = symmetricString(myStr)  
  
print(str1) **# AbCdEEdCbA**

def reverser(a\_str):  
 if len(a\_str) == 1:  
 return a\_str  
  
 else:  
 new\_str = reverser(a\_str[1:]) + a\_str[0]  
 return new\_str  
  
def symmetricString(a\_str):  
 if len(a\_str) == 1:  
 return a\_str\*2  
  
 else:  
 new\_str = reverser(a\_str[1:]) + a\_str[0]  
 return a\_str + new\_str  
  
  
a\_str = "Afsyo"  
  
str1 = symmetricString(a\_str)  
  
print(str1)