Python Assignment #2

ECE 330 – String to Integer Conversion Report

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String to Integer Conversion Code Program and Output

In [1]:
```
#ECE 330
#Python Assignment 2
#Clarizza Morales
#String to integer function converter
#Reference to myAtoi() function from C++
```

In [2]:
```
#define funct with parameter stringVal we want to convert
def myAtoi(stringVal: str) -> int:
        #check for white space
        if stringVal == "":
            return 0
        #array of digits we ca have or convert
        availableDigits = ['1', '2', '3', '4', '5', '6', '7', '8', '9', '0']
        if stringVal[0] not in availableDigits and stringVal[0] != " " and stringVal[0] != "+" and stringVal[0] != "
            return 0

        output = ""
        pos_or_neg = 0
        #check for the sign or white space
        for character in stringVal:
            if pos_or_neg and character not in availableDigits:
                break
            elif character == '+' and output == "":
                pos_or_neg = 1
                continue
            elif character == '-' and output == "":
                pos_or_neg = 1
                output += '-'
            elif character in availableDigits:
                output += character
            elif character == " " and output == "":
                continue
            else:
                continue
            else:
                break

        #check each character in the string to convert
        digitfromArray = 0
        for character in output:
            if character in availableDigits:
                digitfromArray = 1
                break

        if digitfromArray == 0:
            return 0

        #convert the string digits to an integer and clmap if necessary based on accepted signed 32 bit range value
        intOutput = int(output)
        bit32Range = (2**31-1)
        if (intOutput > bit32Range):
            intValue = (2**31 - 1)
            return intValue

        bit32RangeL = (-2**31)
        if (intOutput < bit32RangeL):
            intValue = (-2**31)
            return intValue

        return intOutput


#test function with 23 as string
stringVal1 = '23'
#test function with user's input string
stringVal2 = input("Enter a string value to convert to integer: ")
```

Figure 1. Code to convert string to integer with pos and negative value

```
print('User Input')
print(myAtoi(stringVal2)) #use function
print (myAtoi(stringVal2) + 2) #adding two

print('Testing with string 23')
print(myAtoi(stringVal1))
print(myAtoi(stringVal1) + 2)
```

Figure 2. Code to convert string to integer with pos and negative value, print and main program

```
Enter a string value to convert to integer: -3
User Input
-3
-1
Testing with string 23
23
25
```

Figure 3. Python Assignment #2 output