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# -*- coding: utf-8 -*-
"""
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Reference: https://docs.python.org/3/tutorial/index.html
"""

print ()

# strings can be concatenated using +

print ("left string > " + " < right string")

lstr = "CIS"
rstr = "509"
lrstr = lstr + rstr
print (lrstr)

print ()

# strings can be repeated using *

print ("repeat..."*3)

print ()

# strings can be counted from the left using +ve indices, starting with 0

word = "Python"

print (word[0])

print (word[1])

print (word[2])

print (word[3])

print (word[4])

print (word[5])

print()

# strings can be counted from the right using -ve indices, starting with -1

print (word[-1])

print (word[-2])

print (word[-3])

print (word[-4])

print (word[-5])
```

```
print (word[-6])

print()

# strings can be sliced with [startIndx:endIndx]:
# - startIndx is included and endIndx is excluded
# - startIndx must be < endIndx, else empty string is returned
# - if a slice index is out of range, python will go as far as it can

print (word[0:2])

print (word[2:6])

print (word[2:10])

print (word[-3:-2])

print (word[-3:-6])

print (word[-3:6])

print ()

# omitted startIndx is defaulted to 0, omitted endIndx is defaulted to strlen
# this ensures anyString[:n] + anyString[n:] = anyString

print (word[:2])

print (word[4:])

print (word[-2:])

print (word[:4] + word[4:])

print ()

# Python strings cannot be changed – they are immutable
# attempting to assign to an index position will result in an error

#word[0] = 'J'

# if you need a different string, you should just create a new one

newword = 'J' + word[1:]

print (newword)

print ()

# the Python standard library provides many different methods to  manipulate srtings
# https://docs.python.org/3/library/stdtypes.html#string-methods
# below are ones that are most frequently used

# length of string
print (len('Python'))
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```
# check if substring is in string
print ('th' in 'Python')

# find index of substring in string
print ('Python'.find('th'))

# check if string start with substring
print ('Python'.startswith('Py'))

# check if string ends with substring
print ('Python'.endswith('Py'))

# convert string to lowercase
print ('PYTHON'.lower())

# convert string to upppercase
print ('python'.upper())

# remove leading and trailing blanks
print ('     p y t h o n     '.strip())

# split string using specified character as delimiter
print ('1, 2, 3, 4, 5'.split(','))

# join iterable elements with specified character as delimiter
names = ['john', 'jane', 'sandra', 'mike', 'scott']
sep = ','
print (sep.join(names))

# split string at line feeds and carriage returns
print ('there \n are \n four \n lines'.splitlines())

print ()

# test

myWord = "CIS 509 Classroom"

print (len(myWord))

print (myWord[0:7])

print (myWord[:6] + myWord[6:])

print (myWord[:100])

print (myWord[100:-5])

print (myWord[-9:100])

#print (myWord[])

print ()
```