

SPIS Thursday 10:15pm, Week 1

Characters in a string are an array

- Use value as an index into the string to identify a particular character
- Indices start a 0 (How far from the beginning)

```
string = "    Hello World    "
```

```
print (string) # prints _____
```

```
print (string[0]) # prints _____
```

```
print (string[1]) # prints _____
```

```
string = """ This is a string  
that covers more than one line"""  
print (string)
```

Some string functions and methods:

```
strip () # method called on a particular string  
# to send back a new string with "whitespace"  
# removed from beginning and end
```

```
len (parameter) # function with parameter as string
```

```
lower () # method to send back new string in lower case
```

upper () # method to send back new string in upper case
replace ("H", "J") # method to replace H w/ J in new string
split (",") # method to split on comma and return list of str

String Slicing – get a few characters from a string

- Slice is: [start index inclusive : end index exclusive]
- Omit start – start from the beginning
- Omit end – goes until the end

```
string = "Hello World"
```

```
print (string[0:2]) # prints _____
```

```
print (string[2:4]) # prints _____
```

```
print (string[:4]) # omit start, prints _____
```

```
print (string[2:]) # omit end, prints _____
```

- Loops:
 - o # while loop example 1
abc = 0
while abc != 10:
 print abc
 abc = abc + 1

- # while loop example 2

```
abc = 0
```

```
while True:
```

```
    print abc
```

```
    abc = abc + 1
```

```
    if abc == 10:
```

```
        break
```

- # while loop example 3

```
abc = 0
```

```
while True:
```

```
    print abc
```

```
    abc = abc + 1
```

```
    if abc != 10:
```

```
        continue
```

```
    else
```

```
        break
```

- break leaves loop early
- continue goes to the next loop iteration

- # while loop example 4

```
print ("First")
abc = 0
while abc != 10:
    print (abc)
    abc = abc + 1
    bcd = 0
    while bcd != 5:
        print ("Hello")
        bcd = bcd + 1
```

- # for loop example

```
instructors = [ "Curt", "Gary", "Niema" ]
for instructor in instructors:
    print (instructor)
```

#While loops and for loops are semi interchangeable

```
outer_list = [ 1, 2, 3 ]
```

```
inner_list = [ 4, 5, 6 ]
```

```
for outer in outer_list:
```

```
    for inner in inner_list:
```

```
        print (outer, inner)
```

```
outer_list = [ 1, 2, 3, -1 ]  
inner_list = [ 4, 5, 6, -1 ]
```

```
outer_index = 0  
while outer_list [ outer_index ] != -1:  
    inner_index = 0  
    while inner_list [ inner_index ] != -1:  
        print (outer_list[outer_index], inner_list[inner_index])  
        inner_index += 1  
    outer_index += 1
```