BA — Discussion #7, 2020-10-16

- Homework #3 will be posted today → must be done **individually** as it will get you ready for the C portion of the course
- Exam #2 is two weeks from today! → Friday, 10/30
- Quiz #4 is this afternoon 4⁴⁰pm (Boston Time); tomorrow @ 7am for other time zones
  → 15 min, 5 min to upload
  → due by 5 pm

Review Last week's Quiz #3

Additional Notes for This Week
- the + operator cannot be used to concatenate 2 character vectors
- iscellstr() is determining whether or not a cell array contains only character vectors, not strings (old function. ignore name)
- When creating structures using struct(), as of version R2018b, strings can be used for field names (before they could only be char. vectors)
- make sure you know how structs are displayed (field name: value on separate lines)

Review of Material
- cell arrays
- structures
- when to use cell array vs. structures
- vectors of structures
- nested structures

- text manipulation

Cell arrays + Structures
- examples of calling in Devin's example
- see attached .m file

Text Manipulation
sports = ["baseball" "football" "track and field"]

not sequential commands

```
>> sports(1:2)
   1 x 2  string array
   "baseball" "football"
```

```
>> sports{2} = []
   1 x 3 string array
   "baseball" <missing> "track and field"
```

```
>> sports{1:2}
   ans =
       "baseball"

   ans =
       "football"
```

```
>> "I love " + sports
   ["I love baseball" "I love football" etc...]
```

```
>> sports{2}(1:3)
   'foo'
```

(sports(2){1}(1:3))
also works

```
>> sports(2) = []
   1 x 2 string array
   "baseball" "track and field"
```

```
>> sports(3)
   "track and field"
        ↑
   1x1 string scalar
```

Text Manipulation Functions

strtok()

    ex. strtok(strvar, delimiter)   note that default delimiter is
                                            always a space

    ex. example = 'Well hello'
      [f l] = strtok(example)
        f =
          'Well'
        l =
          '_hello'   note that l includes delimiter (space)

strcat()

    ex. strcat(var1, var2)

    ex. strcat('Well', 'hello')   ex. strcat('Well', '_hello')
        ans =   ans =
          'Wellhello'   'Well_hello'

strrep()

    ex. strrep (string, oldstring, newstring)

    ex. strrep('hello', 'lo', 'p!')   → strrep('hello', 'lo', 'lp_me!')
        ans =   ans =
          'help!'   'help me!'

sprintf()

    ex. var = sprintf( )
      input(var)

Functions need to know that work on strings but **not** char. vectors

    + strings( )   strjoin()   strsplit()   join()