

### Create a vector and access contents

```
vec1 = [2 6 -2 4]
vec1(3)
vec1(2) = 8
```

```
vec2 = zeros(1, 4)
vec2(3) = 10
```

### Create a matrix and access contents

```
mx1 = [2 0 3; 1 5 4]
mx1(2, 3)
mx1(1, 2) = 6
```

```
mx2 = zeros(3, 5)
mx2(2, 4) = 3
```

### Perform arithmetic operations on vectors and matrices

```
vec1 = 2 * vec1
vec2 = vec2 + 4
vec3 = vec1 + vec2
sumVec = sum(vec2)
meanVec = mean(vec2)
[minVal, minInd] = min(vec2)
vec2(minInd)
```

```
mx1 = mx1 / 3
mx3 = mx1 - mx2
```

```
sumMx = sum(sum(mx3))
meanMx = mean(mean(mx3))
absMx = abs(mx3)
sumAbsMx = sum(sum(abs(mx3)))
```

### Print a string

```
disp('hello there')
disp(['the second location of vec1 contains ' num2str(vec1(2)) ])
name = 'CS/NEUR125'
disp(['I am taking ' name ' this spring '])
```

### Store strings or matrices in a cell array

```
numStrings = { 'one', 'two', 'three', 'four' }
numStrings{3}
```

```
disp(['The word for 4 is ' numStrings{4} '])
```

```
images = { image1, image2, image3 }
imshow(images{1})
```

### Repeat actions with a for loop

```
for i = 1:6
    disp('hello again')
end
```

```
leCarre = { 'tinker', 'tailor', 'soldier', 'spy' }
for i = 1:4
    disp(['is the ' leCarre{i} ' the Russian mole in the story? '])
end
```

*% rand(1) gives a random decimal number between 0 and 1*

```
results = zeros(1, 3)
for i = 1:10
    results(1) = results(1) + rand(1)
    results(2) = results(2) + rand(1)
    results(3) = results(3) + rand(1)
end
```