

EXAMPLE HOMEWORK

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Use MATLAB for the following problems. (Make sure to save your workspace so you can come back to it if you need to)

Problem 1. Calculate the sum of the vectors $[1, 2, 3]$ and $[4, 5, 6]$.

Problem 2. Calculate the dot product of the vectors $[1, 2, 3]$ and $[4, 5, 6]$.

Problem 3. Calculate the cross product of the vectors $[1, 2, 3]$ and $[4, 5, 6]$.

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Using Toolbox Path Cache. Type "help toolbox_path_cache" for more info.

To get started, select "MATLAB Help" from the Help menu.

```
>> [1 2 3] + [4 5 6]
```

$$1. \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix} + \begin{bmatrix} 4 \\ 5 \\ 6 \end{bmatrix} = \begin{bmatrix} 5 \\ 7 \\ 9 \end{bmatrix}$$

```
ans =
```

```
5 7 9
```

```
>> dot([1 2 3], [4 5 6])
```

$$2. \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix} \cdot \begin{bmatrix} 4 \\ 5 \\ 6 \end{bmatrix} = 32$$

```
ans =
```

```
32
```

```
>> cross([1 2 3], [4 5 6])
```

```
ans =
```

```
-3 6 -3
```

$$3. \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix} \times \begin{bmatrix} 4 \\ 5 \\ 6 \end{bmatrix} = \begin{bmatrix} -3 \\ 6 \\ -3 \end{bmatrix}$$

```
>>
```