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Creating Matrices

1. direct entry:

$$A = [1, 3, 5, 27]$$

$$B = [4, 3, 7; 8, 2, -5];$$

↑
row
separator

2. Colon Operator

$$C = 5:10; \quad \% [5 \ 6 \ 7 \ 8 \ 9 \ 10]$$

$$D = 3.8 : \underbrace{0.1}_{\text{increment}} : 4.7;$$

increment, can be negative

3. A subset of a larger array

$$F = D(3:6)$$

$$G = D([2, 5, 3]);$$

• "end" = last element

$$H = D(4:end)$$

• ":" by itself is a wild card
for an entire row or column

$$K = B(:, 3); \quad \% \text{ Third column}$$

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4 Using Matlab methods

- ones
- zeros
- rand
- magic
- peaks
- sine, etc.
- eye

- Transpose
- flipud
- flipr
- rot90

Help in elmat

5 load from a file

load filename $\Rightarrow$ creates a variable with the same name

var = load filename $\Rightarrow$ into named variable

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HW Notes See Also

- smooth
- slope as $\text{data}(2:\text{end}) - \text{data}(1:\text{end}-1)$
- plot 3
- relational operators to select element indices
- data = nan not plotted