My Document

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Weave Test

Rectangle Properties

$b = 5 \ \ \text{(base)}$

$h = 12 \ \ \text{(height)}$

Calculate Ix

$$I_x = \frac{b \cdot h^3}{12} = \frac{5 \cdot 12^3}{12} = 720.0$$

Calculate Area

$area = b \cdot h = 5 \cdot 12 = 60$

$$P_e = \frac{\pi^2 \cdot E}{\left(\frac{K \cdot l}{r_s}\right)^2} \cdot A_g = \frac{3.1416^2 \cdot 29000}{\left(\frac{1 \cdot 408}{2.12}\right)^2} \cdot 19.7 = 152.2353 \ \ \text{(AASHTO 6.9.4.1.2-1)}$$

Example Plot

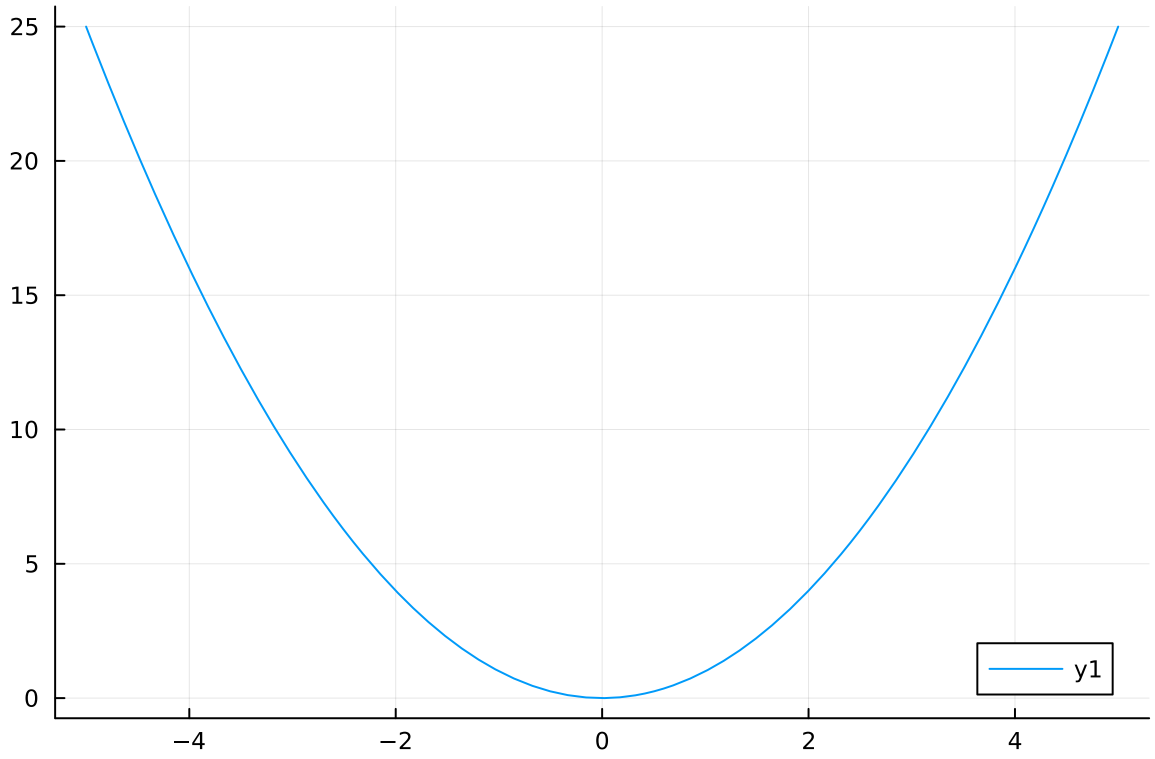

Figure 1: Parametric Plots

$$c = \begin{cases} a+b & \text{if } \ (h < 6) \\ a-b & \text{otherwise} \end{cases} = \begin{cases} \begin{bmatrix}1\\2\\3\end{bmatrix} + \begin{bmatrix}4\\5\\7\end{bmatrix} & \text{if } \ (12 < 6) \\ \begin{bmatrix}1\\2\\3\end{bmatrix} - \begin{bmatrix}4\\5\\7\end{bmatrix} & \text{otherwise} \end{cases} = \begin{bmatrix}-3\\-3\\-4\end{bmatrix}$$

Large Dataset

	OFP	OFNP	OPP	OPNP	EMR	Hosp	NumChron	AdlDiff	Age	Black	Sex	
	Int32	Int32	Int32	Int32	Int32	Int32	Int32	Int32	Float64	Cat…	Cat…	
1	5	0	0	0	0	1	2	0	6.9	yes	male	…
2	1	0	2	0	2	0	2	0	7.4	no	female	…
3	13	0	0	0	3	3	4	1	6.6	yes	female	…
4	16	0	5	0	1	1	2	1	7.6	no	male	…
5	3	0	0	0	0	0	2	1	7.9	no	female	…
6	17	0	0	0	0	0	5	1	6.6	no	female	…
7	9	0	0	0	0	0	0	0	7.5	no	female	…
8	3	0	0	0	0	0	0	0	8.7	no	female	…
9	1	0	0	0	0	0	0	0	7.3	no	female	…
10	0	0	0	0	0	0	0	0	7.8	no	female	…
11	0	0	0	0	0	0	1	0	6.6	no	male	…
12	44	5	2	0	0	1	5	1	6.9	no	female	…
13	2	0	0	0	0	0	1	1	8.4	no	female	…
14	1	0	0	0	0	0	1	1	8.1	no	female	…
15	19	0	1	2	0	1	1	0	7.8	no	female	…
16	19	0	0	0	0	0	0	0	7.6	no	female	…
17	0	0	0	0	0	0	1	1	8.3	no	male	…
18	3	9	1	0	0	0	2	1	8.0	no	female	…
19	2	0	0	0	0	0	3	0	7.3	yes	male	…
20	12	0	2	0	0	0	4	0	7.4	no	male	…
21	2	0	1	0	1	2	1	0	6.7	no	male	…
22	3	0	1	0	0	0	2	0	7.3	no	male	…
23	1	0	0	0	0	0	1	0	7.5	no	female	…
24	1	0	0	0	0	0	2	0	7.1	no	female	…
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	

Small Dataset

	region	mean_age
	Cat…	Float64
1	other	73.987
2	midwest	74.0769
3	noreast	73.9343
4	west	74.1165

```
                          region   mean_age
CategoricalValue{String, UInt8}    Float64
```

```
  other     73.987
midwest   74.0769
noreast   73.9343
   west   74.1165
```