# 2019-03-04 Stable Marriage

Monday, March 4, 2019 3:08 PM

- 2 disparate groups: proposers and acceptors
- While there exists an acceptor without a proposer
  - o All Proposers simultaneously make offer to highest priority available Acceptor
  - o All Acceptors simultaneously reject all but the most favorable Proposer

## Class Example #1

### **Proposers**

Sarah	Erik	Sean	Beau	Ethan	Justin
Carrie	Beau	Ethan	Justin	Sean	Erik
Jessica	Erik	Beau	Justin	Sean	Ethan
Rachel	Ethan	Justin	Sean	Beau	Erik
Vanessa	Erik	Justin	Sean	Beau	Ethan

### **Acceptors**

Justin	Sarah	Jessica	Carrie	Rachel	Vanessa
Ethan	Carrie	Jessica	Vanessa	Rachel	Sarah
Beau	Jessica	Sarah	Rachel	Vanessa	Carrie
Sean	Rachel	Sarah	Vanessa	Jessica	Carrie
Erik	Vanessa	Rachel	Sarah	Carrie	Jessica

#### Iteration #1

### **Proposers**

Sarah	(FAR)	Sean	Beau	Ethan	Justin
Carrie	Beau	Ethan	Justin	Sean	Erik
Jessica (	EPAK	Beau	Justin	Sean	Ethan
Rachel	(Ethan)	Justin	Sean	Beau	Erik
Vanessa	Erik	Justin	Sean	Beau	Ethan

### **Acceptors**

Justin	Sarah	Jessica	Carrie	Rachel	Vanessa
Ethan	Carrie	Jessica	Vanessa	Rachel	Sarah
Beau	Jessica	Sarah	Rachel	Vanessa	Carrie
Sean	Rachel	Sarah	Vanessa	Jessica	Carrie
Erik	Vanessa	Rachel (	Sa)(ah)	Carrie	(ess)(a)

#### Iteration #2

#### **Proposers**

### Iteration #2

# Proposers

Sarah	EME	Sean	Beau	Ethan	Justin
Carrie	Byau	Ethan	Justin	Sean	Erik
Jessica	E)k (	Beau	Justin	Sean	Ethan
Rachel	(Ethan)	Justin	Sean	Beau	Erik
Vanessa	Erik	Justin	Sean	Beau	Ethan

## Acceptors

Justin	Sarah	Jessica	Carrie	Rachel	Vanessa
Ethan	Carrie	Jessica	Vanessa	Rachel	Sarah
Beau (	Jessica	Sarah	Rachel	Vanessa	Carrie
Sean	Rachel	(Sarah)	Vanessa	Jessica	Carrie
Erik (	Vanessa	Rachel (	Sa)(ah)	Carrie	(ess)(a)

### Iteration #3

# Proposers

Sarah Eine	Sean	Beau	Ethan	Justin
Carrie Byau	Ethan	Justin	Sean	Erik
Jessica Erik	Beau	Justin	Sean	Ethan
Rachel Ethan	Justin	Sean	Beau	Erik
Vanessa (Erik	Justin	Sean	Beau	Ethan

## Acceptors

Justin	Sarah	Jessica	Carrie	Rachel	Vanessa
Ethan <	Carrie	Jessica	Vanessa	RacKel	Sarah
Beau (	Jessica	Sarah	Rachel	Vanessa	Carrie
Sean	Rachel	Sarah	Vanessa	Jessica	Carrie
Erik (	Vanessa	Rachel (	Sa/ah)	Carrie	(ess)(a)
			$\checkmark$		$\searrow$

## Iteration #4

## Proposers

Sarah	EME)	Sean	Beau	Ethan	Justin
Carrie	Byau (	Ethan	Justin	Sean	Erik
Jessica	E)K (	Beau	Justin	Sean	Ethan
Rachel	(Ethan)	lustin	Sean	Beau	Erik
Vanessa	Erik	Justin	Sean	Beau	Ethan

### Acceptors

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Justiii	Saraii	Jessica	Carrie	( Nachel / Vallessa
				\ \ /

## Acceptors

Justin	Sarah	Jessica	Carrie (	Rachel	Vanessa
Ethan (	Carrie	Jessica	Vanessa	Rackel	Sarah
Beau (	Jessica	Sarah	Rachel	Vanessa	Carrie
Sean	Rachel	Sarah	Vanessa	Jessica	Carrie
Erik (	Vanessa	Rachel (	Sa/ah)	Carrie	ressiva)
			$\checkmark$		