

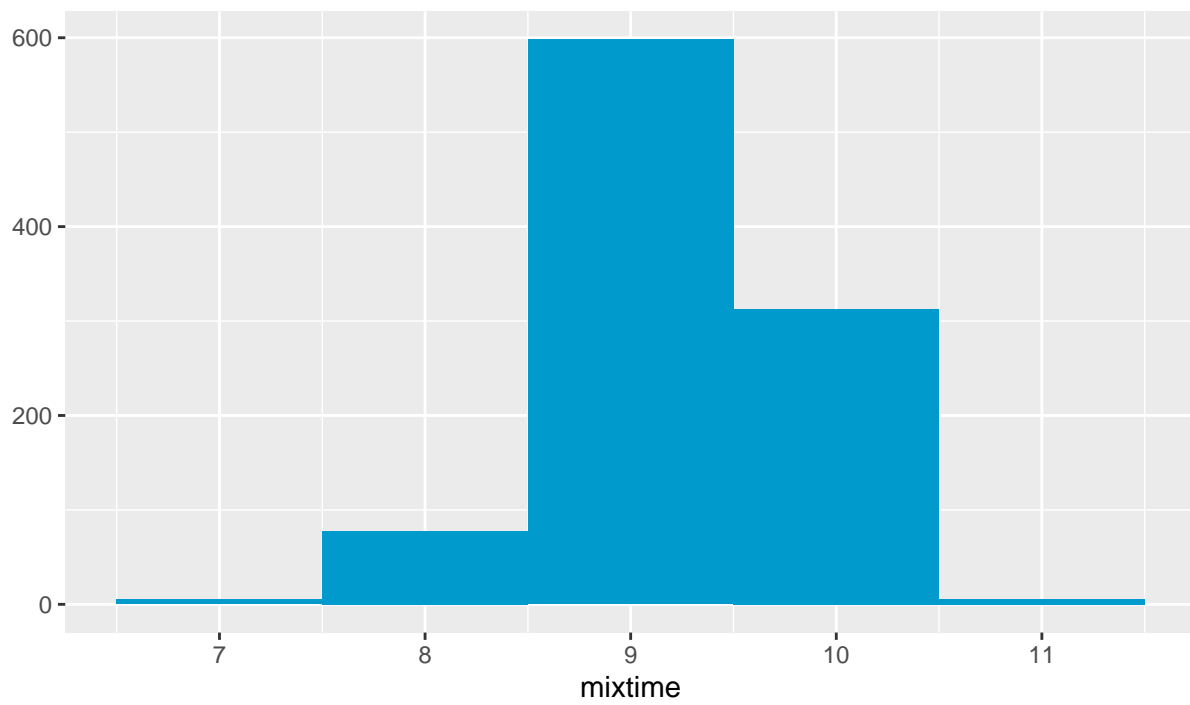
# Mixing Times of Erdos-Renyi Walks

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## Erdos-Renyi Walk Mixing Times

##		[,1]	[,2]	[,3]	[,4]	[,5]	[,6]	[,7]
##	[1,]	0.0000000	0.07974457	0.1186471	0.0000000	0.0000000	0.1514725	0.0000000
##	[2,]	0.2230094	0.00000000	0.0000000	0.2203219	0.1032259	0.0000000	0.0000000
##	[3,]	0.0000000	0.00000000	0.0000000	0.0000000	0.0000000	0.4360868	0.0000000
##	[4,]	0.0000000	0.00000000	0.0000000	0.0000000	0.0000000	0.4308420	0.2562422
##	[5,]	0.4641544	0.53584562	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
##	[6,]	0.0000000	0.00000000	0.4468457	0.0000000	0.0000000	0.5531543	0.0000000
##	[7,]	0.0000000	0.00000000	0.0000000	0.3841484	0.2905438	0.1600755	0.0000000
##	[8,]	0.0000000	0.00000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
##	[9,]	0.0000000	0.00000000	0.1908586	0.1615728	0.0000000	0.0000000	0.0000000
##	[10,]	0.0000000	0.30774887	0.0000000	0.0000000	0.0000000	0.3906339	0.0000000
##		[,8]	[,9]	[,10]				
##	[1,]	0.3496642	0.30047159	0.0000000				
##	[2,]	0.1451822	0.30826047	0.0000000				
##	[3,]	0.3858135	0.04001825	0.1380815				
##	[4,]	0.0000000	0.13127923	0.1816366				
##	[5,]	0.0000000	0.00000000	0.0000000				
##	[6,]	0.0000000	0.00000000	0.0000000				
##	[7,]	0.0000000	0.00000000	0.1652323				
##	[8,]	0.0000000	1.00000000	0.0000000				
##	[9,]	0.3247345	0.00000000	0.3228341				
##	[10,]	0.3016173	0.00000000	0.0000000				

Mixing Time Distribution for a Erdos-0.8 Matrix



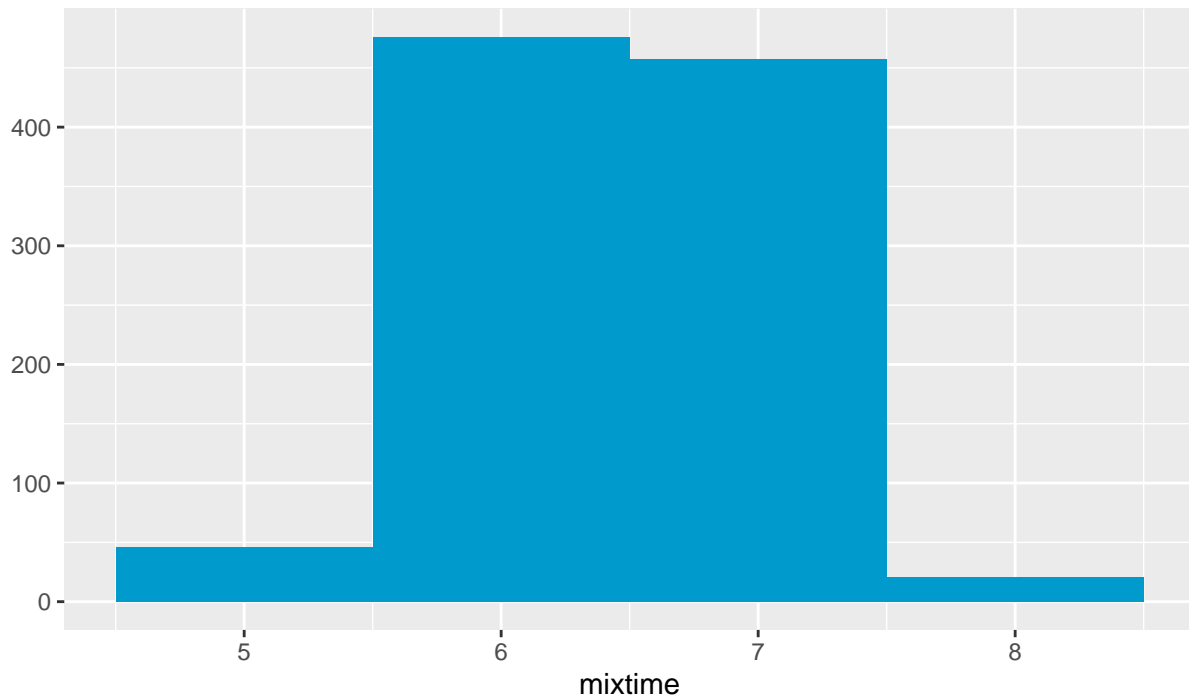
```
## [1] "This batch is 100% mixed."
```

```

##          [,1]      [,2]      [,3]      [,4]      [,5]      [,6]
## [1,] 0.0000000 0.00000000 0.00000000 0.0000000 0.0000000 0.18896080
## [2,] 0.0000000 0.00000000 0.00000000 0.0000000 0.0000000 0.18697336
## [3,] 0.0000000 0.00000000 0.00000000 0.3516892 0.3480156 0.00000000
## [4,] 0.1349424 0.00000000 0.14577105 0.0000000 0.3529259 0.15533816
## [5,] 0.0000000 0.00000000 0.03443873 0.0000000 0.2870448 0.28364742
## [6,] 0.0000000 0.00000000 0.49655054 0.0000000 0.0000000 0.07851302
## [7,] 0.0000000 0.00000000 0.00000000 0.0000000 0.0000000 0.35945239
## [8,] 0.1020842 0.29183445 0.17573479 0.1270924 0.0000000 0.17038258
## [9,] 0.0000000 0.00000000 0.00000000 0.0000000 0.0000000 0.39295089
## [10,] 0.0000000 0.07244358 0.00000000 0.1994058 0.0000000 0.24154720
##          [,7]      [,8]      [,9]      [,10]
## [1,] 0.000000000 0.4362033 0.3748359 0.00000000
## [2,] 0.000000000 0.3314228 0.4274484 0.05415546
## [3,] 0.166851581 0.1334436 0.0000000 0.00000000
## [4,] 0.000000000 0.2110225 0.0000000 0.00000000
## [5,] 0.034405533 0.0000000 0.3220857 0.03837782
## [6,] 0.000000000 0.4249364 0.0000000 0.00000000
## [7,] 0.000000000 0.0000000 0.6405476 0.00000000
## [8,] 0.009967858 0.0000000 0.1229037 0.00000000
## [9,] 0.332655463 0.0000000 0.2743937 0.00000000
## [10,] 0.233492187 0.2531112 0.0000000 0.00000000

```

Mixing Time Distribution for a Erdos-0.5 Matrix



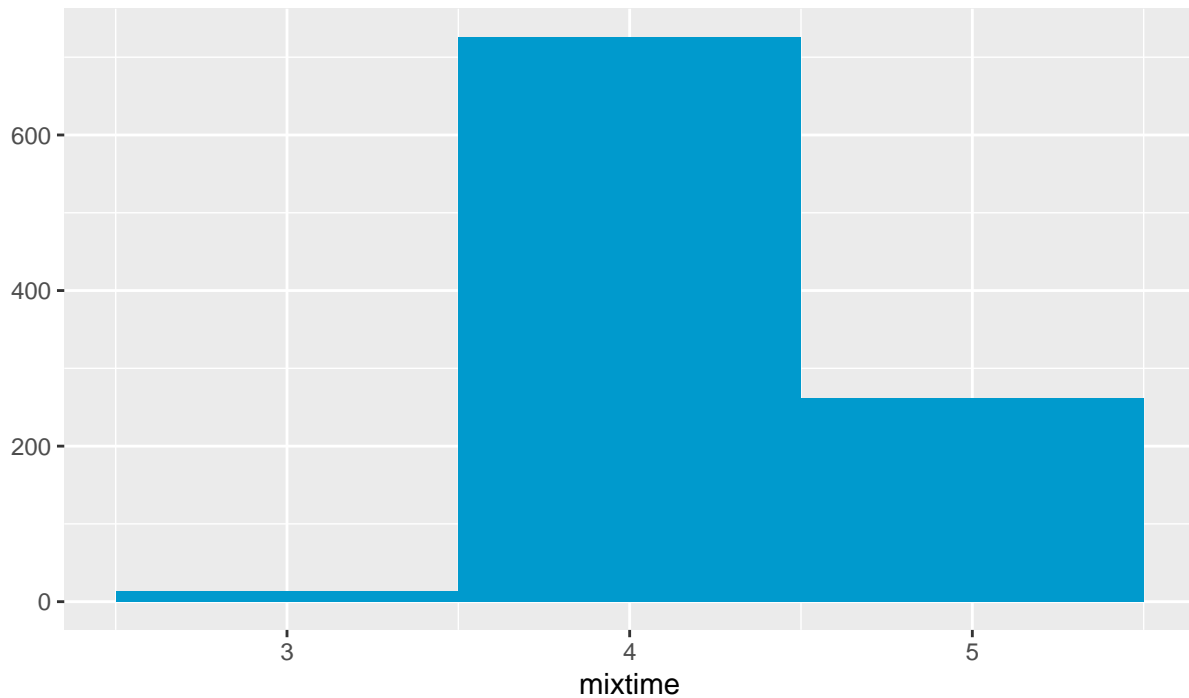
```
## [1] "This batch is 100% mixed."
```

```

##           [,1]      [,2]      [,3]      [,4]      [,5]      [,6]
## [1,] 0.00000000 0.04952027 0.0736782 0.15777477 0.00000000 0.09406234
## [2,] 0.18680447 0.03075587 0.1144129 0.13106957 0.20811706 0.13868107
## [3,] 0.31725711 0.04019481 0.00000000 0.00000000 0.00000000 0.10826868
## [4,] 0.00000000 0.00000000 0.00000000 0.12230029 0.09781263 0.24725041
## [5,] 0.10457120 0.00000000 0.00000000 0.00000000 0.10267599 0.02753201
## [6,] 0.15086802 0.04187865 0.1109065 0.17404232 0.15947535 0.01882944
## [7,] 0.00000000 0.12592268 0.1333233 0.11522548 0.00000000 0.16331988
## [8,] 0.20641071 0.00000000 0.2419434 0.08800560 0.05372912 0.00000000
## [9,] 0.07852333 0.19023189 0.1133722 0.06576025 0.08105294 0.15851019
## [10,] 0.04015407 0.15330753 0.00000000 0.02092888 0.18696267 0.20949127
##           [,7]      [,8]      [,9]      [,10]
## [1,] 0.00000000 0.21713658 0.18658867 0.22123917
## [2,] 0.12949002 0.06066908 0.00000000 0.00000000
## [3,] 0.12535429 0.11820290 0.29072221 0.00000000
## [4,] 0.16410221 0.26863366 0.09990079 0.00000000
## [5,] 0.24858858 0.10941474 0.25858064 0.14863683
## [6,] 0.17010358 0.00000000 0.15508480 0.01881129
## [7,] 0.12426478 0.09599895 0.03164902 0.21029592
## [8,] 0.07798130 0.14402641 0.00000000 0.18790342
## [9,] 0.00000000 0.07769243 0.21951768 0.01533905
## [10,] 0.02722682 0.06485909 0.18541674 0.11165293

```

Mixing Time Distribution for a Erdos-0.2 Matrix



```
## [1] "This batch is 100% mixed."
```