

**4.2 Exercises: Charts**

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DSC640-T301 Data Presentation & Visualization (2227-1)

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## 4.2 Exercises: Charts

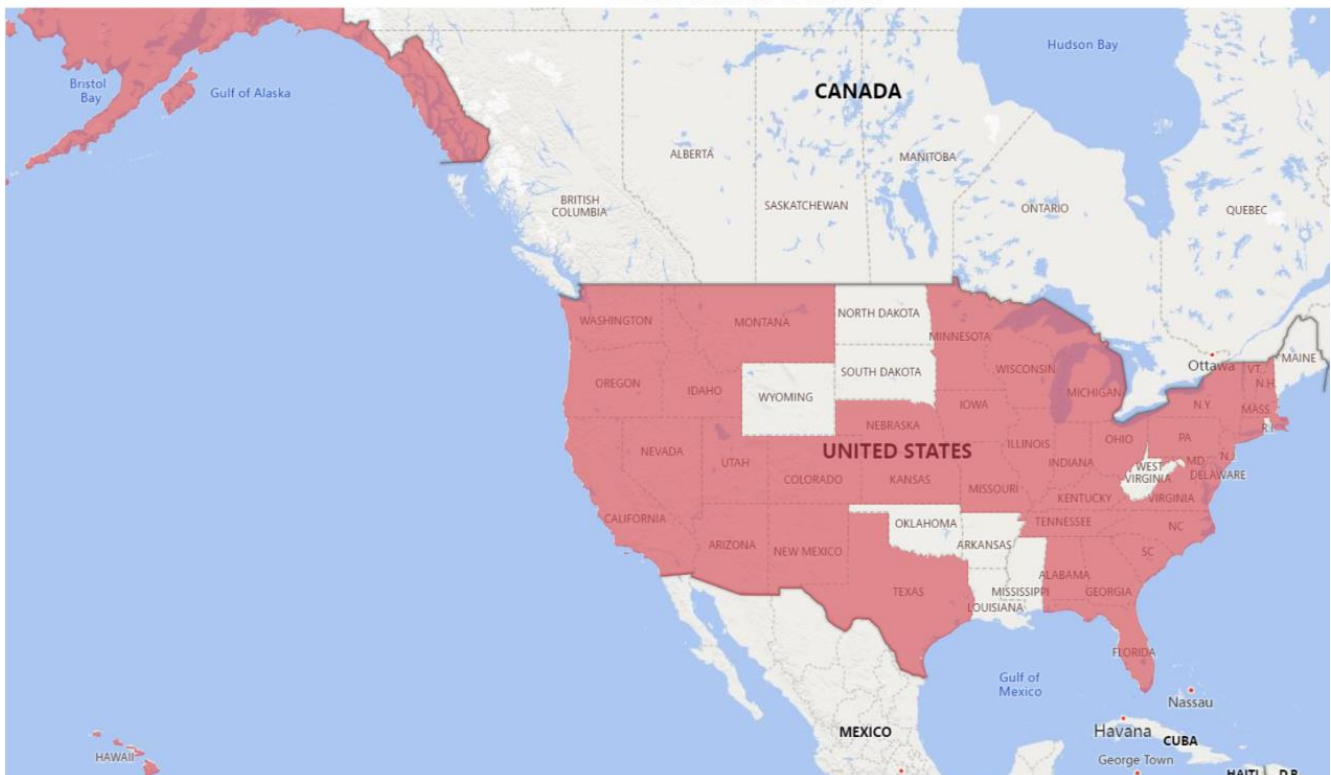
## Power BI – Heat Map

2008 NBA Player Stats

Name	3PA	3PM	3PP	AST	BLK	DRB	FGA	FGM	FGP	FTA	FTM	FTP	G	MIN	ORB	PF	PTS	STL	TO	TRB
Al Harrington	6.40	2.30	0.36	1.40	0.30	4.90	16.60	7.30	0.44	4.00	3.20	0.79	73	34.90	1.40	3.10	20.10	1.20	2.20	6.20
Al Jefferson	0.10	0.00	0.00	1.60	1.70	7.50	19.50	9.70	0.50	5.00	3.70	0.74	50	36.60	3.40	2.80	23.10	0.80	1.80	11.00
Allen Iverson	1.70	0.50	0.28	5.00	0.10	2.50	14.60	6.10	0.42	6.10	4.80	0.78	57	36.70	0.50	1.50	17.50	1.50	2.60	3.00
Amare Stoudemire	0.10	0.10	0.43	2.00	1.10	5.90	14.10	7.60	0.54	7.30	6.10	0.84	53	36.80	2.20	3.10	21.40	0.90	2.80	8.00
Andre Igoudala	3.20	1.00	0.31	5.30	0.40	4.60	14.00	6.60	0.47	6.40	4.60	0.72	82	39.80	1.10	1.90	18.80	1.60	2.70	5.70
Antawn Jamison	3.90	1.40	0.35	1.90	0.30	6.50	17.80	8.30	0.47	5.60	4.20	0.75	81	38.20	2.40	2.70	22.20	1.20	1.50	8.90
Ben Gordon	5.10	2.10	0.41	3.40	0.30	2.80	16.00	7.30	0.46	4.70	4.00	0.86	82	36.60	0.60	2.20	20.70	0.90	2.40	3.50
Brandon Roy	2.80	1.10	0.38	5.10	0.30	3.40	16.90	8.10	0.48	6.50	5.30	0.82	78	37.20	1.30	1.60	22.60	1.10	1.90	4.70
Carmelo Anthony	2.60	1.00	0.37	3.40	0.40	5.20	18.30	8.10	0.44	7.10	5.60	0.79	66	34.50	1.60	3.00	22.80	1.10	3.00	6.80
Caron Butler	3.10	1.00	0.31	4.30	0.30	4.40	16.20	7.30	0.45	6.00	5.10	0.86	67	38.60	1.80	2.50	20.80	1.60	3.10	6.20
Chauncey Billups	5.00	2.10	0.41	6.40	0.20	2.60	12.40	5.20	0.42	5.80	5.30	0.91	79	35.30	0.40	2.00	17.70	1.20	2.20	3.00
Chris Bosh	0.60	0.20	0.25	2.50	1.00	7.20	16.40	8.00	0.49	8.00	6.50	0.82	77	38.10	2.80	2.50	22.70	0.90	2.30	10.00
Chris Paul	2.30	0.80	0.36	11.00	0.10	4.70	16.10	8.10	0.50	6.70	5.80	0.87	78	38.50	0.90	2.70	22.80	2.80	3.00	5.50
Corey Maggette	1.90	0.50	0.25	1.80	0.20	4.60	12.40	5.70	0.46	8.10	6.70	0.82	51	31.10	1.00	3.80	18.60	0.90	2.40	5.50
Danny Granger	6.70	2.70	0.40	2.70	1.40	4.40	19.10	8.50	0.45	6.90	6.00	0.88	67	36.20	0.70	3.10	25.80	1.00	2.50	5.10
David West	0.30	0.10	0.24	2.30	0.90	6.40	17.00	8.00	0.47	5.50	4.80	0.88	76	39.30	2.10	2.70	21.00	0.60	2.10	8.50
Deron Williams	3.30	1.00	0.31	10.70	0.30	2.50	14.50	6.80	0.47	5.60	4.80	0.85	68	36.90	0.40	2.00	19.40	1.10	3.40	2.90
Devin Harris	3.20	0.90	0.29	6.90	0.20	2.90	15.10	6.60	0.44	8.80	7.20	0.82	69	36.10	0.40	2.40	21.30	1.70	3.10	3.30
Dirk Nowitzki	2.10	0.80	0.36	2.40	0.80	7.30	20.00	9.60	0.48	6.70	6.00	0.89	81	37.70	1.10	2.20	25.90	0.80	1.90	8.40
Dwight Howard	0.00	0.00	0.00	1.40	2.90	9.60	12.40	7.10	0.57	10.70	6.40	0.59	79	35.70	4.30	3.40	20.60	1.00	3.00	13.80
Dwyane Wade	3.50	1.10	0.32	7.50	1.30	3.90	22.00	10.80	0.49	9.80	7.50	0.77	79	38.60	1.10	2.30	30.20	2.20	3.40	5.00
Jamal Crawford	6.10	2.20	0.36	4.40	0.20	2.60	15.70	6.40	0.41	5.30	4.60	0.87	65	38.10	0.40	1.40	19.70	0.90	2.30	3.00
Jason Terry	6.20	2.30	0.37	3.40	0.30	1.90	15.80	7.30	0.46	3.00	2.70	0.88	74	33.60	0.50	1.90	19.60	1.30	1.60	2.40
Joe Johnson	5.20	1.90	0.36	5.80	0.20	3.60	18.00	7.80	0.44	4.60	3.80	0.83	79	39.50	0.80	2.20	21.40	1.10	2.50	4.40
John Salmons	3.80	1.60	0.42	3.20	0.30	3.50	13.80	6.50	0.47	4.40	3.60	0.83	79	37.50	0.70	2.30	18.30	1.10	2.10	4.20
Josh Howard	3.20	1.10	0.35	1.60	0.60	3.90	15.10	6.80	0.45	4.20	3.30	0.78	52	31.90	1.10	2.60	18.00	1.10	1.70	5.10

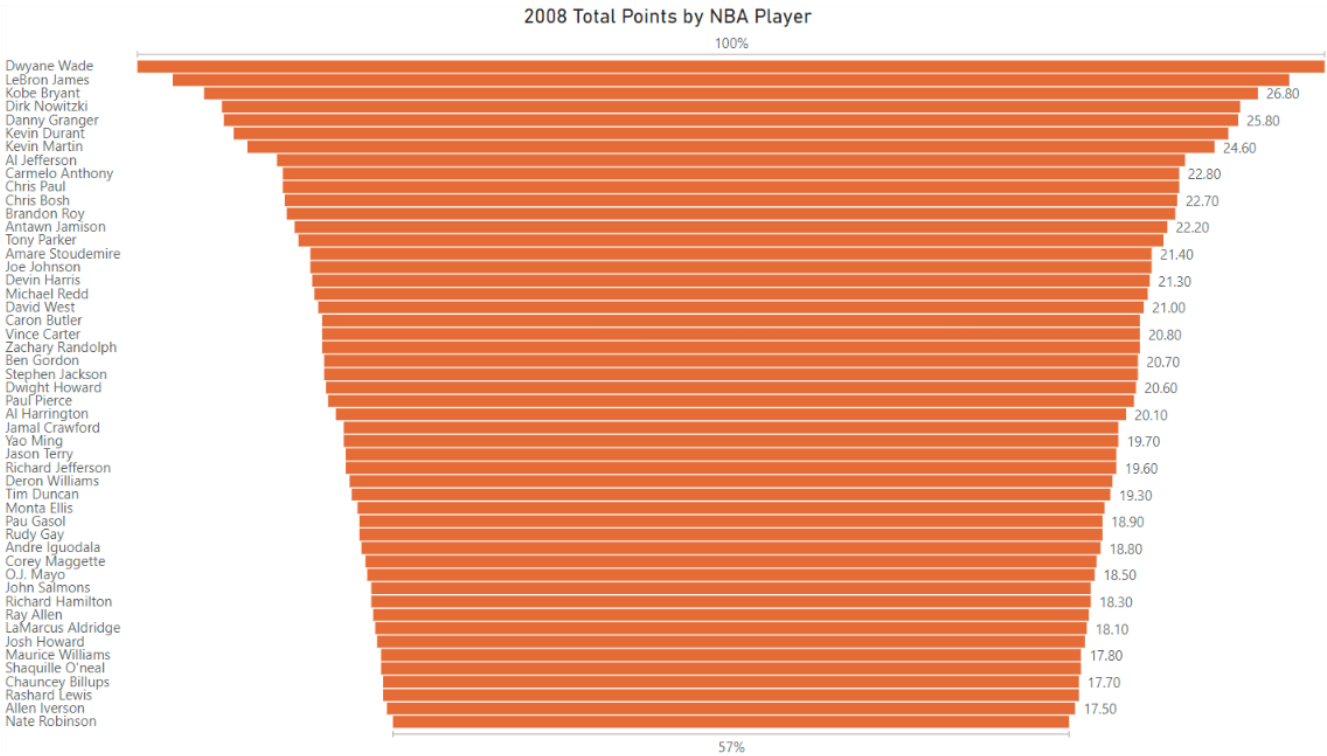
## Power BI – Spatial Chart

## Costco Locations in the U.S.



4.2 Exercises: Charts

Power BI – Funnel Chart



4.2 Exercises: Charts

Python – Heat Map

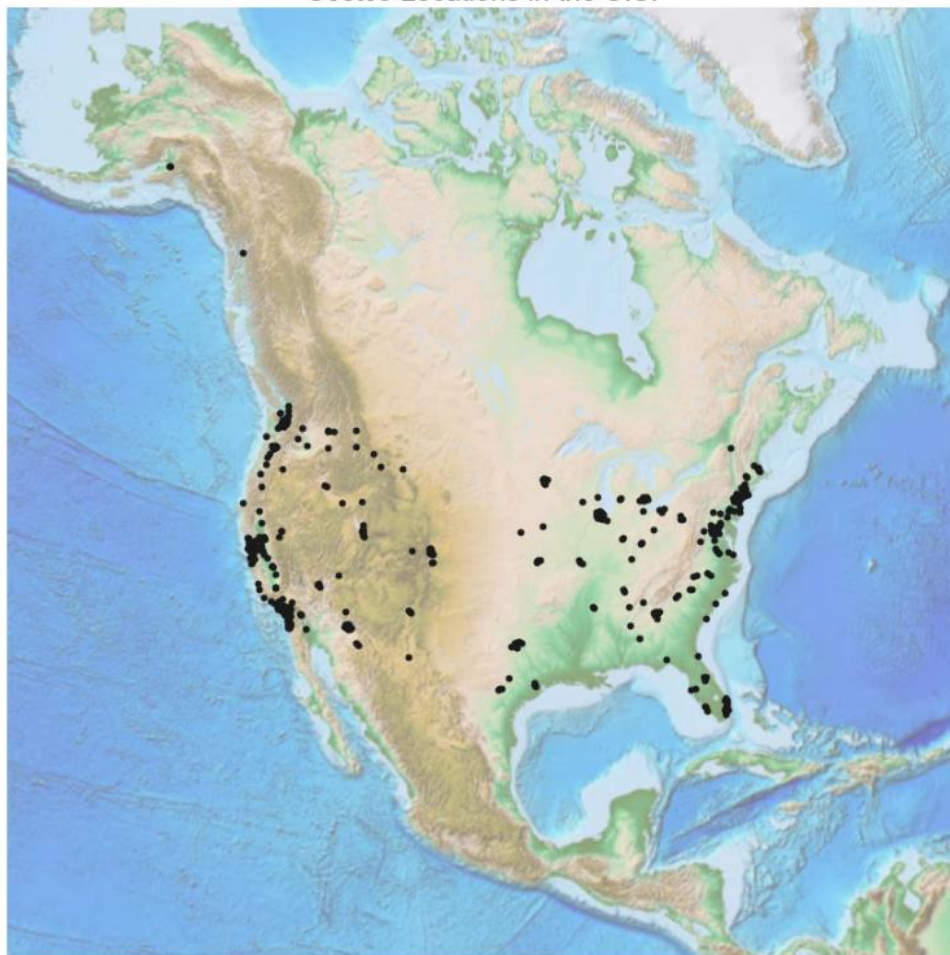
		2008 NBA Player Stats																			
Name		G	MIN	PTS	FGM	FGA	FGP	FTM	FTA	FTP	3PM	3PA	3PP	ORB	DRB	TRB	AST	STL	BLK	TO	PF
	Dwyane Wade	79	39	30	11	22	0.49	7.5	9.8	0.77	1.1	3.5	0.32	1.1	3.9	5	7.5	2.2	1.3	3.4	2.3
	LeBron James	81	38	28	9.7	20	0.49	7.3	9.4	0.78	1.6	4.7	0.34	1.3	6.3	7.6	7.2	1.7	1.1	3	1.7
	Kobe Bryant	82	36	27	9.8	21	0.47	5.9	6.9	0.86	1.4	4.1	0.35	1.1	4.1	5.2	4.9	1.5	0.5	2.6	2.3
	Dirk Nowitzki	81	38	26	9.6	20	0.48	6	6.7	0.89	0.8	2.1	0.36	1.1	7.3	8.4	2.4	0.8	0.8	1.9	2.2
	Danny Granger	67	36	26	8.5	19	0.45	6	6.9	0.88	2.7	6.7	0.4	0.7	4.4	5.1	2.7	1	1.4	2.5	3.1
	Kevin Durant	74	39	25	8.9	19	0.48	6.1	7.1	0.86	1.3	3.1	0.42	1	5.5	6.5	2.8	1.3	0.7	3	1.8
	Kevin Martin	51	38	25	6.7	16	0.42	9	10	0.87	2.3	5.4	0.41	0.6	3	3.6	2.7	1.2	0.2	2.9	2.3
	Al Jefferson	50	37	23	9.7	20	0.5	3.7	5	0.74	0	0.1	0	3.4	7.5	11	1.6	0.8	1.7	1.8	2.8
	Chris Paul	78	38	23	8.1	16	0.5	5.8	6.7	0.87	0.8	2.3	0.36	0.9	4.7	5.5	11	2.8	0.1	3	2.7
	Carmelo Anthony	66	34	23	8.1	18	0.44	5.6	7.1	0.79	1	2.6	0.37	1.6	5.2	6.8	3.4	1.1	0.4	3	3
	Chris Bosh	77	38	23	8	16	0.49	6.5	8	0.82	0.2	0.6	0.24	2.8	7.2	10	2.5	0.9	1	2.3	2.5
	Brandon Roy	78	37	23	8.1	17	0.48	5.3	6.5	0.82	1.1	2.8	0.38	1.3	3.4	4.7	5.1	1.1	0.3	1.9	1.6
	Antawn Jamison	81	38	22	8.3	18	0.47	4.2	5.6	0.75	1.4	3.9	0.35	2.4	6.5	8.9	1.9	1.2	0.3	1.5	2.7
	Tony Parker	72	34	22	8.9	18	0.51	3.9	5	0.78	0.3	0.9	0.29	0.4	2.7	3.1	6.9	0.9	0.1	2.6	1.5
	Amare Stoudemire	53	37	21	7.6	14	0.54	6.1	7.3	0.83	0.1	0.1	0.43	2.2	5.9	8.1	2	0.9	1.1	2.8	3.1
	Joe Johnson	79	40	21	7.8	18	0.44	3.8	4.6	0.83	1.9	5.2	0.36	0.8	3.6	4.4	5.8	1.1	0.2	2.5	2.2
	Devin Harris	69	36	21	6.6	15	0.44	7.2	8.8	0.82	0.9	3.2	0.29	0.4	2.9	3.3	6.9	1.7	0.2	3.1	2.4
	Michael Redd	33	36	21	7.5	17	0.46	4	4.9	0.81	2.1	5.8	0.37	0.7	2.5	3.2	2.7	1.1	0.1	1.6	1.4
	David West	76	39	21	8	17	0.47	4.8	5.5	0.88	0.1	0.3	0.24	2.1	6.4	8.5	2.3	0.6	0.9	2.1	2.7
	Zachary Randolph	50	35	21	8.3	18	0.47	3.6	4.9	0.73	0.6	1.9	0.33	3.1	6.9	10	2.1	0.9	0.3	2.3	2.7
	Caron Butler	67	39	21	7.3	16	0.45	5.1	6	0.86	1	3.1	0.31	1.8	4.4	6.2	4.3	1.6	0.3	3.1	2.5
	Vince Carter	80	37	21	7.4	17	0.44	4.2	5.1	0.82	1.9	4.9	0.39	0.9	4.2	5.1	4.7	1	0.5	2.1	2.9
	Stephen Jackson	59	40	21	7	17	0.41	5	6	0.83	1.7	5.2	0.34	1.2	3.9	5.1	6.5	1.5	0.5	3.9	2.6
	Ben Gordon	82	37	21	7.3	16	0.46	4	4.7	0.86	2.1	5.1	0.41	0.6	2.8	3.5	3.4	0.9	0.3	2.4	2.2
	Dwight Howard	79	36	21	7.1	12	0.57	6.4	11	0.59	0	0	0	4.3	9.6	14	1.4	1	2.9	3	3.4
	Paul Pierce	81	37	20	6.7	15	0.46	5.7	6.8	0.83	1.5	3.8	0.39	0.7	5	5.6	3.6	1	0.3	2.8	2.7
	Al Harrington	73	35	20	7.3	17	0.44	3.2	4	0.79	2.3	6.4	0.36	1.4	4.9	6.2	1.4	1.2	0.3	2.2	3.1
	Jamal Crawford	65	38	20	6.4	16	0.41	4.6	5.3	0.87	2.2	6.1	0.36	0.4	2.6	3	4.4	0.9	0.2	2.3	1.4
	Yao Ming	77	34	20	7.4	13	0.55	4.9	5.7	0.87	0	0	1	2.6	7.2	9.9	1.8	0.4	1.9	3	3.3
	Richard Jefferson	82	36	20	6.5	15	0.44	5.1	6.3	0.81	1.4	3.6	0.4	0.7	3.9	4.6	2.4	0.8	0.2	2	3.1
	Jason Terry	74	34	20	7.3	16	0.46	2.7	3	0.88	2.3	6.2	0.37	0.5	1.9	2.4	3.4	1.3	0.3	1.6	1.9
	Deron Williams	68	37	19	6.8	14	0.47	4.8	5.6	0.85	1	3.3	0.31	0.4	2.5	2.9	11	1.1	0.3	3.4	2
	Tim Duncan	75	34	19	7.4	15	0.5	4.5	6.4	0.69	0	0	0	2.7	8	11	3.5	0.5	1.7	2.2	2.3
	Monta Ellis	25	36	19	7.8	17	0.45	3.1	3.8	0.83	0.3	1	0.31	0.6	3.8	4.3	3.7	1.6	0.3	2.7	2.7
	Rudy Gay	79	37	19	7.2	16	0.45	3.3	4.4	0.77	1.1	3.1	0.35	1.4	4.2	5.5	1.7	1.2	0.7	2.6	2.8
	Pau Gasol	81	37	19	7.3	13	0.57	4.2	5.4	0.78	0	0	0.5	3.2	6.4	9.6	3.5	0.6	1	1.9	2.1
	Andre Iguodala	82	40	19	6.6	14	0.47	4.6	6.4	0.72	1	3.2	0.31	1.1	4.6	5.7	5.3	1.6	0.4	2.7	1.9
	Corey Maggette	51	31	19	5.7	12	0.46	6.7	8.1	0.82	0.5	1.9	0.25	1	4.6	5.5	1.8	0.9	0.2	2.4	3.8
	O.J. Mayo	82	38	18	6.9	16	0.44	3	3.4	0.88	1.8	4.6	0.38	0.7	3.1	3.8	3.2	1.1	0.2	2.8	2.5
	John Salmons	79	38	18	6.5	14	0.47	3.6	4.4	0.83	1.6	3.8	0.42	0.7	3.5	4.2	3.2	1.1	0.3	2.1	2.3
	Richard Hamilton	67	34	18	7	16	0.45	3.3	3.9	0.85	1	2.8	0.37	0.7	2.4	3.1	4.4	0.6	0.1	2	2.6
	Ray Allen	79	36	18	6.3	13	0.48	3	3.2	0.95	2.5	6.2	0.41	0.8	2.7	3.5	2.8	0.9	0.2	1.7	2
	LaMarcus Aldridge	81	37	18	7.4	15	0.48	3.2	4.1	0.78	0.1	0.3	0.25	2.9	4.6	7.5	1.9	1	1	1.5	2.6
	Josh Howard	52	32	18	6.8	15	0.45	3.3	4.2	0.78	1.1	3.2	0.34	1.1	3.9	5.1	1.6	1.1	0.6	1.7	2.6
	Maurice Williams	81	35	18	6.5	14	0.47	2.6	2.8	0.91	2.3	5.2	0.44	0.6	2.9	3.4	4.1	0.9	0.1	2.2	2.7
	Shaquille O'neal	75	30	18	6.8	11	0.61	4.1	6.9	0.59	0	0	0	2.5	5.9	8.4	1.7	0.7	1.4	2.2	3.4
	Rashard Lewis	79	36	18	6.1	14	0.44	2.8	3.4	0.84	2.8	7	0.4	1.2	4.6	5.7	2.6	1	0.6	2	2.5
	Chauncey Billups	79	35	18	5.2	12	0.42	5.3	5.8	0.91	2.1	5	0.41	0.4	2.6	3	6.4	1.2	0.2	2.2	2
	Allen Iverson	57	37	18	6.1	15	0.42	4.8	6.1	0.78	0.5	1.7	0.28	0.5	2.5	3	5	1.5	0.1	2.6	1.5
	Nate Robinson	74	30	17	6.1	14	0.44	3.4	4	0.84	1.7	5.2	0.33	1.3	2.6	3.9	4.1	1.3	0.1	1.9	2.8



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### Python – Spatial Chart

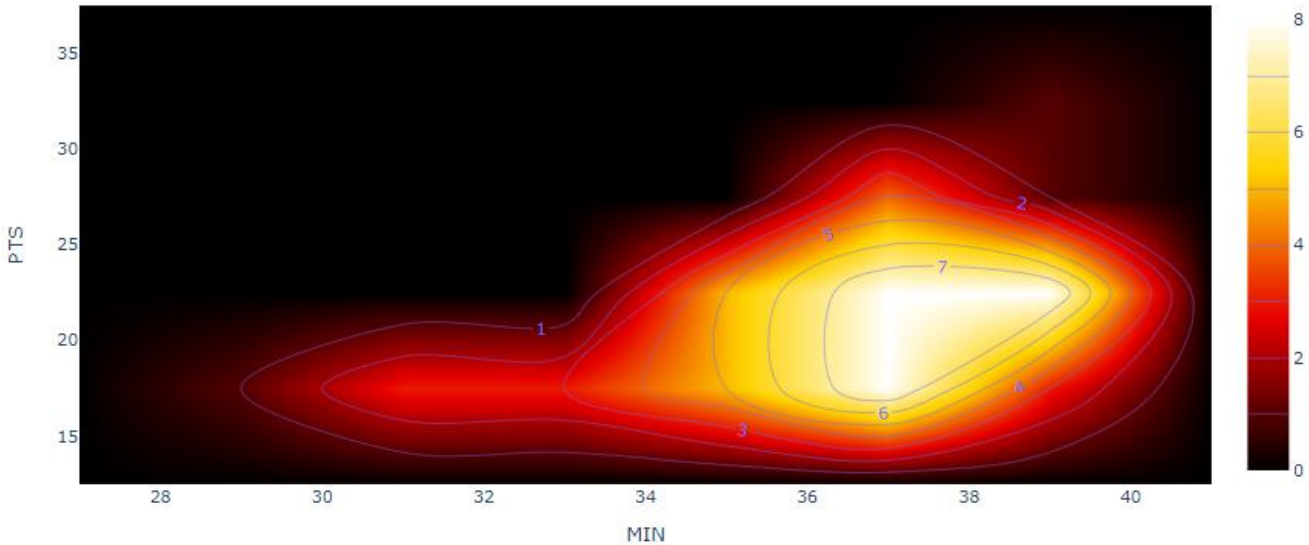
Costco Locations in the U.S.



4.2 Exercises: Charts

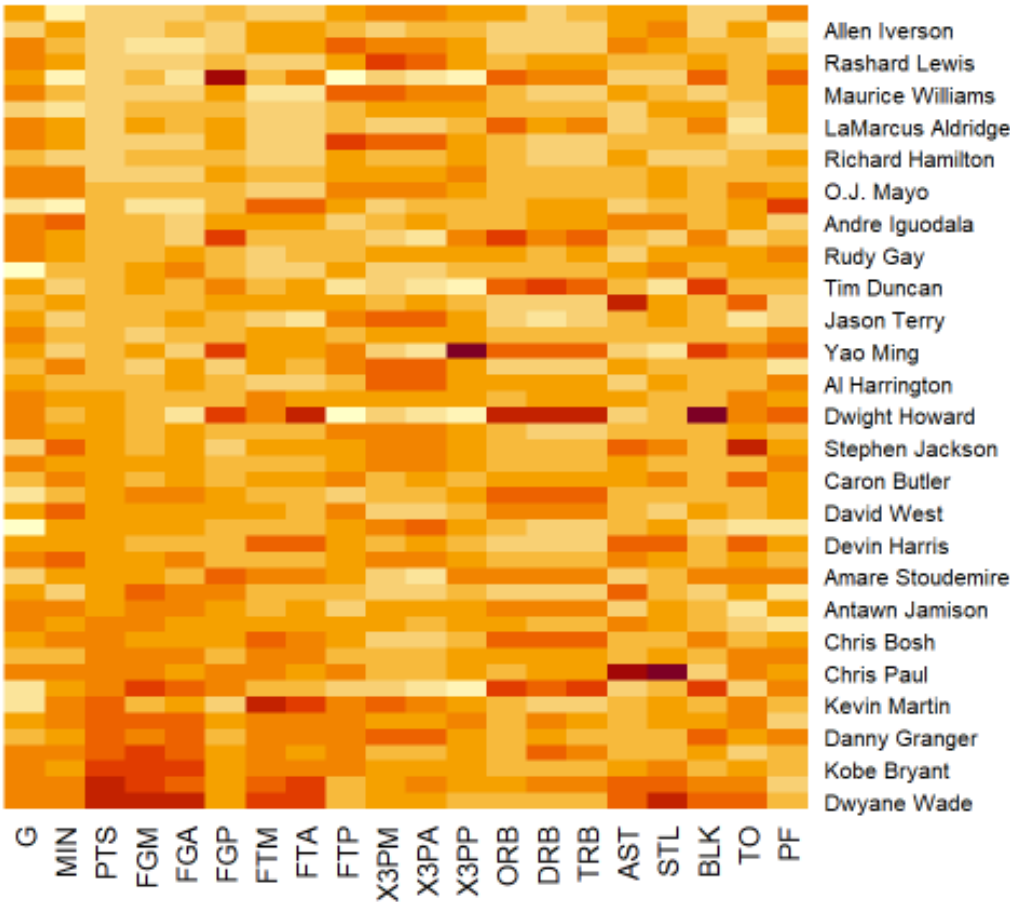
Python – Contour Chart

2008 NBA Minutes Vs Points



R Studio – Heat Map

2008 NBA Player Stats



## 4.2 Exercises: Charts

### R Studio – Spatial Chart



### R-Studio – Contour Chart

