

#IMPORT 12 MONTHS DATA

```
july_data = read.csv("C:\\Users\\DELL\\Desktop\\CAPSTONE PROJECT DATA\\202007-divvy-tripdata.csv")
```

```
head(july_data)
```

	ride_id	rideable_type	started_at	ended_at	start_station_name	start_station_id	end_station_name	end_station_id
1	762198876D69004D	docked_bike	7/9/2020 15:22	7/9/2020 15:25	Ritchie Ct & Banks St		180 Wells St & Evergreen Ave	291
2	BEC9C9FBA0D4CF1B	docked_bike	7/24/2020 23:56	7/25/2020 0:20	Halsted St & Roscoe St		299 Broadway & Ridge Ave	461
3	D2FD8EA432C77EC1	docked_bike	7/8/2020 19:49	7/8/2020 19:56	Lake Shore Dr & Diversey Pkwy		329 Clark St & Wellington Ave	156
4	54AE594E20B35881	docked_bike	7/17/2020 19:06	7/17/2020 19:27	LaSalle St & Illinois St		181 Clark St & Armitage Ave	94
5	54025FDC7440B56F	docked_bike	7/4/2020 10:39	7/4/2020 10:45	Lake Shore Dr & North Blvd		268 Clark St & Schiller St	301
6	65636B619E24257F	docked_bike	7/28/2020 16:33	7/28/2020 16:49	Fairbanks St & Superior St		635 Wells St & Concord Ln	289

	start_lat	start_lng	end_lat	end_lng	member_casual	ride_length	day_of_week
1	41.90687	-87.62622	41.90672	-87.63483	member	0:03:50	5
2	41.94367	-87.64895	41.98404	-87.66027	member	0:23:47	6
3	41.93259	-87.63643	41.93650	-87.64754	casual	0:07:15	4
4	41.89076	-87.63170	41.91831	-87.63628	casual	0:20:56	6
5	41.91172	-87.62680	41.90799	-87.63150	member	0:05:08	7
6	41.89575	-87.62010	41.91213	-87.63466	casual	0:16:07	3

```
august_data <- read.csv("C:\\Users\\DELL\\Desktop\\CAPSTONE PROJECT DATA\\202008-divvy-tripdata.csv")
```

```
head(august_data)
```

	ride_id	rideable_type	started_at	ended_at	start_station_name	start_station_id	end_station_name	end_station_id
1	322BD23D287743ED	docked_bike	8/20/2020 18:08	8/20/2020 18:17	Lake Shore Dr & Diversey Pkwy		329 Clark St & Lincoln Ave	141
2	2A3AEF1AB9054D8B	electric_bike	8/27/2020 18:46	8/27/2020 19:54	Michigan Ave & 14th St		168 Michigan Ave & 14th St	168
3	67DC1D133E8B5816	electric_bike	8/26/2020 19:44	8/26/2020 21:53	Columbus Dr & Randolph St		195 State St & Randolph St	44
4	C79FBBD412E578A7	electric_bike	8/27/2020 12:05	8/27/2020 12:53	Daley Center Plaza		81 State St & Kinzie St	47
5	13814D3D661ECADB	electric_bike	8/27/2020 16:49	8/27/2020 16:59	Leavitt St & Division St		658 Leavitt St & Division St	658
6	56349A5A42F0AE51	electric_bike	8/27/2020 17:26	8/27/2020 18:07	Leavitt St & Division St		658 Leavitt St & Division St	658

	start_lat	start_lng	end_lat	end_lng	member_casual	ride_length	day_of_week
1	41.93259	-87.63643	41.91569	-87.63460	member	0:09:37	5
2	41.86438	-87.62368	41.86422	-87.62344	casual	1:08:47	5
3	41.88464	-87.61955	41.88497	-87.62757	casual	2:08:53	4
4	41.88409	-87.62964	41.88958	-87.62754	casual	0:48:04	5
5	41.90299	-87.68377	41.90300	-87.68384	casual	0:10:47	5
6	41.90302	-87.68373	41.90309	-87.68363	casual	0:41:27	5

```
september_data <- read.csv("C:\\Users\\DELL\\Desktop\\CAPSTONE PROJECT DATA\\202009-divvy-tripdata.csv")
```

```
head(september_data)
```

	ride_id	rideable_type	started_at	ended_at	start_station_name	start_station_id	end_station_name	end_station_id
1	2B22BD5F95FB2629	electric_bike	9/17/2020 14:27	9/17/2020 14:44	Michigan Ave & Lake St		52 Green St & Randolph St	112
2	A7FB70B4AFC6CAF2	electric_bike	9/17/2020 15:07	9/17/2020 15:07	W Oakdale Ave & N Broadway		NA W Oakdale Ave & N Broadway	NA

3 86057FA01BAC778E electric_bike 9/17/2020 15:09 9/17/2020 15:09 W Oakdale Ave & N Broadway
NA W Oakdale Ave & N Broadway NA

4 57F6DC9A153DB98C electric_bike 9/17/2020 18:10 9/17/2020 18:35 Ashland Ave & Belle Plaine Ave
246 Montrose Harbor 249

5 B9C4712F78C1AE68 electric_bike 9/17/2020 15:16 9/17/2020 15:52 Fairbanks Ct & Grand Ave
24 Fairbanks Ct & Grand Ave 24

6 378BBCE1E444EB80 electric_bike 9/17/2020 18:37 9/17/2020 19:23 Clark St & Armitage Ave
94 NA

start_lat start_lng end_lat end_lng member_casual ride_length day_of_week

1 41.88669 -87.62356 41.88357 -87.64873 casual 0:17:13 5

2 41.94000 -87.64000 41.94000 -87.64000 casual 0:00:14 5

3 41.94000 -87.64000 41.94000 -87.64000 casual 0:00:31 5

4 41.95606 -87.66892 41.96398 -87.63822 casual 0:25:03 5

5 41.89186 -87.62101 41.89135 -87.62032 casual 0:36:42 5

6 41.91826 -87.63636 41.88000 -87.62000 casual 0:46:24 5

```
octuber_data <- read.csv("C:\\Users\\DELL\\Desktop\\CAPSTONE PROJECT DATA\\202010-divvy-  
tripdata.csv")
```

```
head(octuber_data)
```

ride_id rideable_type started_at ended_at start_station_name start_station_id
end_station_name end_station_id

1 ACB6B40CF5B9044C electric_bike 10/31/2020 19:39 10/31/2020 19:57 Lakeview Ave & Fullerton
Pkwy 313 Rush St & Hubbard St 125

2 DF450C72FD109C01 electric_bike 10/31/2020 23:50 11/1/2020 0:04 Southport Ave & Waveland Ave
227 Kedzie Ave & Milwaukee Ave 260

3 B6396B54A15AC0DF electric_bike 10/31/2020 23:00 10/31/2020 23:08 Stony Island Ave & 67th St
102 University Ave & 57th St 423

4 44A4AEE261B9E854 electric_bike 10/31/2020 22:16 10/31/2020 22:19 Clark St & Grace St
165 Broadway & Sheridan Rd 256

5 10B7DD76A6A2EB95 electric_bike 10/31/2020 19:38 10/31/2020 19:54 Southport Ave & Wrightwood
Ave 190 Stave St & Armitage Ave 185

```
6 DA6C3759660133DA electric_bike 10/29/2020 17:38 10/29/2020 17:45 Larrabee St & Division St
359 Wells St & Huron St 53
```

```
start_lat start_lng end_lat end_lng member_casual ride_length day_of_week
```

```
1 41.92610 -87.63898 41.89035 -87.62607 casual 0:17:29 7
2 41.94817 -87.66391 41.92953 -87.70782 casual 0:14:08 7
3 41.77346 -87.58537 41.79145 -87.60005 casual 0:08:21 7
4 41.95085 -87.65924 41.95281 -87.65010 casual 0:02:52 7
5 41.92886 -87.66396 41.91778 -87.69143 casual 0:16:13 7
6 41.90353 -87.64335 41.89440 -87.63431 casual 0:07:39 5
```

```
november_data <- read.csv("C:\\Users\\DELL\\Desktop\\CAPSTONE PROJECT DATA\\202011-divvy-
tripdata.csv")
```

```
head(november_data)
```

```
ride_id rideable_type started_at ended_at start_station_name start_station_id
end_station_name end_station_id
```

```
1 BD0A6FF6FFF9B921 electric_bike 11/1/2020 13:36 11/1/2020 13:45 Dearborn St & Erie St
110 St. Clair St & Erie St 211
```

```
2 96A7A7A4BDE4F82D electric_bike 11/1/2020 10:03 11/1/2020 10:14 Franklin St & Illinois St
672 Noble St & Milwaukee Ave 29
```

```
3 C61526D06582BDC5 electric_bike 11/1/2020 0:34 11/1/2020 1:03 Lake Shore Dr & Monroe St
76 Federal St & Polk St 41
```

```
4 E533E89C32080B9E electric_bike 11/1/2020 0:45 11/1/2020 0:54 Leavitt St & Chicago Ave
659 Stave St & Armitage Ave 185
```

```
5 1C9F4EF18C168C60 electric_bike 11/1/2020 15:43 11/1/2020 16:16 Buckingham Fountain
2 Buckingham Fountain 2
```

```
6 7259585D8276D338 electric_bike 11/14/2020 15:55 11/14/2020 16:44 Wabash Ave & 16th St
72 Lake Shore Dr & Monroe St 76
```

```
start_lat start_lng end_lat end_lng member_casual ride_length day_of_week
```

```
1 41.89418 -87.62913 41.89443 -87.62338 casual 0:09:40 1
2 41.89096 -87.63534 41.90067 -87.66248 casual 0:11:19 1
```

```

3 41.88098 -87.61675 41.87205 -87.62955    casual  0:29:01    1
4 41.89550 -87.68201 41.91774 -87.69139    casual  0:09:15    1
5 41.87650 -87.62036 41.87645 -87.62034    casual  0:33:27    1
6 41.86029 -87.62581 41.88099 -87.61677    casual  0:49:21    7

```

```

december_data <- read.csv("C:\\Users\\DELL\\Desktop\\CAPSTONE PROJECT DATA\\202012-divvy-
tripdata.csv")

```

```

head(december_data)

```

```

ride_id rideable_type    started_at    ended_at    start_station_name start_station_id
end_station_name end_station_id

```

```

1 70B6A9A437D4C30D classic_bike 12/27/2020 12:44 12/27/2020 12:55 Aberdeen St & Jackson Blvd
13157 Desplaines St & Kinzie St TA1306000003

```

```

2 158A465D4E74C54A electric_bike 12/18/2020 17:37 12/18/2020 17:44

```

```

3 5262016E0F1F2F9A electric_bike 12/15/2020 15:04 12/15/2020 15:11

```

```

4 BE119628E44F871E electric_bike 12/15/2020 15:54 12/15/2020 16:00

```

```

5 69AF78D57854E110 electric_bike 12/22/2020 12:08 12/22/2020 12:10

```

```

6 C1DECC4AB488831C electric_bike 12/22/2020 13:26 12/22/2020 13:34

```

```

start_lat start_lng end_lat end_lng member_casual ride_length day_of_week

```

```

1 41.87773 -87.65479 41.88872 -87.64445    member  0:10:37    1

```

```

2 41.93000 -87.70000 41.91000 -87.70000    member  0:07:04    6

```

```

3 41.91000 -87.69000 41.93000 -87.70000    member  0:06:55    3

```

```

4 41.92000 -87.70000 41.91000 -87.70000    member  0:05:53    3

```

```

5 41.80000 -87.59000 41.80000 -87.59000    member  0:02:42    3

```

```

6 41.80000 -87.59000 41.78000 -87.60000    member  0:08:13    3

```

```

january_data <- read.csv("C:\\Users\\DELL\\Desktop\\CAPSTONE PROJECT DATA\\202101-divvy-
tripdata.csv")

```

```

head(january_data)

```

ride_id	rideable_type	started_at	ended_at	start_station_name	start_station_id	end_station_name	end_station_id	start_lat
1 E19E6F1B8D4C42ED	electric_bike	1/23/2021 16:14	1/23/2021 16:24	California Ave & Cortez St	17660			41.90034
2 DC88F20C2C55F27F	electric_bike	1/27/2021 18:43	1/27/2021 18:47	California Ave & Cortez St	17660			41.90033
3 EC45C94683FE3F27	electric_bike	1/21/2021 22:35	1/21/2021 22:37	California Ave & Cortez St	17660			41.90031
4 4FA453A75AE377DB	electric_bike	1/7/2021 13:31	1/7/2021 13:42	California Ave & Cortez St	17660			41.90040
5 BE5E8EB4E7263A0B	electric_bike	1/23/2021 2:24	1/23/2021 2:24	California Ave & Cortez St	17660			41.90033
6 5D8969F88C773979	electric_bike	1/9/2021 14:24	1/9/2021 15:17	California Ave & Cortez St	17660			41.90041

start_lng	end_lat	end_lng	member_casual	ride_length	day_of_week
1 -87.69674	41.89	-87.72	member	0:10:25	7
2 -87.69671	41.90	-87.69	member	0:04:04	4
3 -87.69664	41.90	-87.70	member	0:01:20	5
4 -87.69666	41.92	-87.69	member	0:11:42	5
5 -87.69670	41.90	-87.70	casual	0:00:43	7
6 -87.69676	41.94	-87.71	casual	0:53:47	7

```
february_data <- read.csv("C:\\Users\\DELL\\Desktop\\CAPSTONE PROJECT DATA\\202102-divvy-tripdata.csv")
```

```
head(february_data)
```

ride_id	rideable_type	started_at	ended_at	start_station_name	start_station_id	end_station_name	end_station_id
1 89E7AA6C29227EFF	classic_bike	2/12/2021 16:14	2/12/2021 16:21	Glenwood Ave & Touhy Ave	525	Sheridan Rd & Columbia Ave	660
2 0FEFDE2603568365	classic_bike	2/14/2021 17:52	2/14/2021 18:12	Glenwood Ave & Touhy Ave	525	Bosworth Ave & Howard St	16806

3 E6159D746B2DBB91 electric_bike 2/9/2021 19:10 2/9/2021 19:19 Clark St & Lake St
KA1503000012 State St & Randolph St TA1305000029

4 B32D3199F1C2E75B classic_bike 2/2/2021 17:49 2/2/2021 17:54 Wood St & Chicago Ave
637 Honore St & Division St TA1305000034

5 83E463F23575F4BF electric_bike 2/23/2021 15:07 2/23/2021 15:22 State St & 33rd St
13216 Emerald Ave & 31st St TA1309000055

6 BDAA7E3494E8D545 electric_bike 2/24/2021 15:43 2/24/2021 15:49 Fairbanks St & Superior St
18003 LaSalle Dr & Huron St KP1705001026

start_lat start_lng end_lat end_lng member_casual ride_length day_of_week

1	42.01270	-87.66606	42.00458	-87.66141	member	0:06:47	6
2	42.01270	-87.66606	42.01954	-87.66956	casual	0:19:31	1
3	41.88579	-87.63110	41.88487	-87.62750	member	0:08:52	3
4	41.89563	-87.67207	41.90312	-87.67394	member	0:04:25	3
5	41.83473	-87.62583	41.83816	-87.64512	member	0:15:14	3
6	41.89581	-87.62025	41.89489	-87.63198	casual	0:05:32	4

```
march_data <- read.csv("C:\\Users\\DELL\\Desktop\\CAPSTONE PROJECT DATA\\202103-divvy-
tripdata.csv")
```

```
head(march_data)
```

ride_id	rideable_type	started_at	ended_at	start_station_name	start_station_id	end_station_name
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1	CFA86D4455AA1030	classic_bike	3/16/2021 8:32	3/16/2021 8:36	Humboldt Blvd & Armitage Ave	15651 Stave St & Armitage Ave
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2	30D9DC61227D1AF3	classic_bike	3/28/2021 1:26	3/28/2021 1:36	Humboldt Blvd & Armitage Ave	15651 Central Park Ave & Bloomingdale Ave
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3	846D87A15682A284	classic_bike	3/11/2021 21:17	3/11/2021 21:33	Shields Ave & 28th Pl	15443 Halsted St & 35th St
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4	994D05AA75A168F2	classic_bike	3/11/2021 13:26	3/11/2021 13:55	Winthrop Ave & Lawrence Ave	TA1308000021 Broadway & Sheridan Rd
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5	DF7464FBE92D8308	classic_bike	3/21/2021 9:09	3/21/2021 9:27	Glenwood Ave & Touhy Ave	525 Chicago Ave & Sheridan Rd
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6 CEBA8516FD17F8D8 classic_bike 3/20/2021 11:08 3/20/2021 11:29 Glenwood Ave & Touhy Ave
525 Chicago Ave & Sheridan Rd

	end_station_id	start_lat	start_lng	end_lat	end_lng	member_casual	ride_length	day_of_week
1	13266	41.91751	-87.70181	41.91774	-87.69139	casual	0:04:04	3
2	18017	41.91751	-87.70181	41.91417	-87.71676	casual	0:10:27	1
3	TA1308000043	41.84273	-87.63549	41.83066	-87.64717	casual	0:16:24	5
4	13323	41.96881	-87.65766	41.95283	-87.64999	casual	0:28:59	5
5	E008	42.01270	-87.66606	42.05049	-87.67782	casual	0:17:56	1
6	E008	42.01270	-87.66606	42.05049	-87.67782	casual	0:20:52	7

```
april_data <- read.csv("C:\\Users\\DELL\\Desktop\\CAPSTONE PROJECT DATA\\202104-divvy-  
tripdata.csv")
```

```
head(april_data)
```

ride_id	rideable_type	started_at	ended_at	start_station_name	start_station_id	end_station_name	end_station_id
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1 6C992BD37A98A63F classic_bike 4/12/2021 18:25 4/12/2021 18:56 State St & Pearson St
TA1307000061 Southport Ave & Waveland Ave 13235

2 1E0145613A209000 docked_bike 4/27/2021 17:27 4/27/2021 18:31 Dorchester Ave & 49th St
KA1503000069 Dorchester Ave & 49th St KA1503000069

3 E498E15508A80BAD docked_bike 4/3/2021 12:42 4/7/2021 11:40 Loomis Blvd & 84th St
20121 Loomis Blvd & 84th St 20121

4 1887262AD101C604 classic_bike 4/17/2021 9:17 4/17/2021 9:42 Honore St & Division St
TA1305000034 Southport Ave & Waveland Ave 13235

5 C123548CAB2A32A5 docked_bike 4/3/2021 12:42 4/3/2021 14:13 Loomis Blvd & 84th St
20121 Loomis Blvd & 84th St 20121

6 097E76F3651B1AC1 classic_bike 4/25/2021 18:43 4/25/2021 18:43 Clinton St & Polk St 15542
Clinton St & Polk St 15542

	start_lat	start_lng	end_lat	end_lng	member_casual	ride_length	day_of_week
1	41.89745	-87.62872	41.94815	-87.66394	member	0:31:19	2
2	41.80577	-87.59246	41.80577	-87.59246	casual	1:04:18	3

3	41.74149	-87.65841	41.74149	-87.65841	casual	94:57:39	7
4	41.90312	-87.67394	41.94815	-87.66394	member	0:25:06	7
5	41.74149	-87.65841	41.74149	-87.65841	casual	1:31:17	7
6	41.87147	-87.64095	41.87147	-87.64095	casual	0:00:41	1

```
may_data <- read.csv("C:\\Users\\DELL\\Desktop\\CAPSTONE PROJECT DATA\\202105-divvy-
tripdata.csv")
```

```
head(may_data)
```

ride_id	rideable_type	started_at	ended_at	start_station_name	start_station_id	end_station_name	end_station_id	start_lat	start_lng
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1	C809ED75D6160B2A	electric_bike	5/30/2021 11:58	5/30/2021 12:10					
	41.90	-87.63							

2	DD59FDCE0ACACAF3	electric_bike	5/30/2021 11:29	5/30/2021 12:14					
	41.88	-87.62							

3	0AB83CB88C43EFC2	electric_bike	5/30/2021 14:24	5/30/2021 14:25					
	41.92	-87.70							

4	7881AC6D39110C60	electric_bike	5/30/2021 14:25	5/30/2021 14:41					
	41.92	-87.70							

5	853FA701B4582BAF	electric_bike	5/30/2021 18:15	5/30/2021 18:22					
	41.94	-87.69							

6	F5E63DFD96B2A737	electric_bike	5/30/2021 11:33	5/30/2021 11:57					
	41.88	-87.63							

	end_lat	end_lng	member_casual	ride_length	day_of_week
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1	41.89	-87.61	casual	0:12:24	1
2	41.79	-87.58	casual	0:44:55	1
3	41.92	-87.70	casual	0:01:12	1
4	41.94	-87.69	casual	0:15:13	1
5	41.94	-87.70	casual	0:06:53	1
6	41.89	-87.62	casual	0:23:36	1

```
june_data <- read.csv("C:\\Users\\DELL\\Desktop\\CAPSTONE PROJECT DATA\\202106-divvy-tripdata.csv")
```

```
head(june_data)
```

```
ride_id rideable_type   started_at   ended_at start_station_name start_station_id
end_station_name end_station_id start_lat start_lng
```

```
1 99FEC93BA843FB20 electric_bike 6/13/2021 14:31 6/13/2021 14:34
41.80 -87.59
```

```
2 06048DCFC8520CAF electric_bike 6/4/2021 11:18 6/4/2021 11:24
41.79 -87.59
```

```
3 9598066F68045DF2 electric_bike 6/4/2021 9:49 6/4/2021 9:55
41.80 -87.60
```

```
4 B03C0FE48C412214 electric_bike 6/3/2021 19:56 6/3/2021 20:21
41.78 -87.58
```

```
5 B9EEA89F8FEE73B7 electric_bike 6/4/2021 14:05 6/4/2021 14:09
41.80 -87.59
```

```
6 62B943CEAAA420BA electric_bike 6/3/2021 19:32 6/3/2021 19:38
41.78 -87.58
```

```
end_lat end_lng member_casual ride_length day_of_week
```

```
1 41.80 -87.60 member 0:02:43 1
```

```
2 41.80 -87.60 member 0:06:17 6
```

```
3 41.79 -87.59 member 0:05:59 6
```

```
4 41.80 -87.60 member 0:25:50 5
```

```
5 41.79 -87.59 member 0:04:08 6
```

```
6 41.78 -87.58 member 0:06:45 5
```

#MERGING ALL DATA INTO ONE DATASET

```
data <-
```

```
rbind(july_data,august_data,september_data,october_data,november_data,december_data,january_data,february_data,march_data,april_data,may_data,june_data)
```

```
head(data)
```

	ride_id	rideable_type	started_at	ended_at	start_station_name	start_station_id	end_station_name	end_station_id
1	762198876D69004D	docked_bike	7/9/2020 15:22	7/9/2020 15:25	Ritchie Ct & Banks St		180 Wells St & Evergreen Ave	291
2	BEC9C9FBA0D4CF1B	docked_bike	7/24/2020 23:56	7/25/2020 0:20	Halsted St & Roscoe St		299 Broadway & Ridge Ave	461
3	D2FD8EA432C77EC1	docked_bike	7/8/2020 19:49	7/8/2020 19:56	Lake Shore Dr & Diversey Pkwy		329 Clark St & Wellington Ave	156
4	54AE594E20B35881	docked_bike	7/17/2020 19:06	7/17/2020 19:27	LaSalle St & Illinois St		181 Clark St & Armitage Ave	94
5	54025FDC7440B56F	docked_bike	7/4/2020 10:39	7/4/2020 10:45	Lake Shore Dr & North Blvd		268 Clark St & Schiller St	301
6	65636B619E24257F	docked_bike	7/28/2020 16:33	7/28/2020 16:49	Fairbanks St & Superior St		635 Wells St & Concord Ln	289

	start_lat	start_lng	end_lat	end_lng	member_casual	ride_length	day_of_week
1	41.90687	-87.62622	41.90672	-87.63483	member	0:03:50	5
2	41.94367	-87.64895	41.98404	-87.66027	member	0:23:47	6
3	41.93259	-87.63643	41.93650	-87.64754	casual	0:07:15	4
4	41.89076	-87.63170	41.91831	-87.63628	casual	0:20:56	6
5	41.91172	-87.62680	41.90799	-87.63150	member	0:05:08	7
6	41.89575	-87.62010	41.91213	-87.63466	casual	0:16:07	3

#COLUMN NAMES

colnames(data)

```
[1] "ride_id"      "rideable_type" "started_at"    "ended_at"     "start_station_name"
"start_station_id" "end_station_name"

[8] "end_station_id" "start_lat"     "start_lng"     "end_lat"      "end_lng"
"member_casual"  "ride_length"

[15] "day_of_week"
```

#DIMENTION OF DATA

```
dim(data)
```

```
[1] 4395659 15
```

#REMOVE UNNECESSARY COLUMN

```
data = subset(data, select = -c(start_lng, start_lat,end_lng,end_lat))
```

#DIMENSION OF DATA AFTER REMOVING COLUMN

```
dim(data)
```

```
[1] 4395659 11
```

#Add columns that list the date, month, day, and year of each ride

```
data$date <- as.Date(data$started_at)
```

#The default format is yyyy-mm-dd

```
data$month <- format(as.Date(data$date), "%m")
```

```
data$day <- format(as.Date(data$date), "%d")
```

```
data$year <- format(as.Date(data$date), "%Y")
```

```
data$day_of_week <- format(as.Date(data$date), "%A")
```

#CHECKING IF ride_length IS NUMERIC TYPE OR NOT

```
[1] FALSE
```

#CHANGING IT INTO NUMERIC TYPE

```
data$ride_length <- as.numeric(as.character(data$ride_length))
```

#CHACKING IT AFTER CHANGING DATATYPE

```
[1] TRUE
```

#EXPORTING DATASET INTO CSV FILE

```
data<- write.csv(data,'data.csv')
```