

Problem Set #3

About the data

Pace & Barry (1997) describes this dataset as information regarding housing prices in a given district taken from the 1990 California Census (Pace & Barry, 1997).

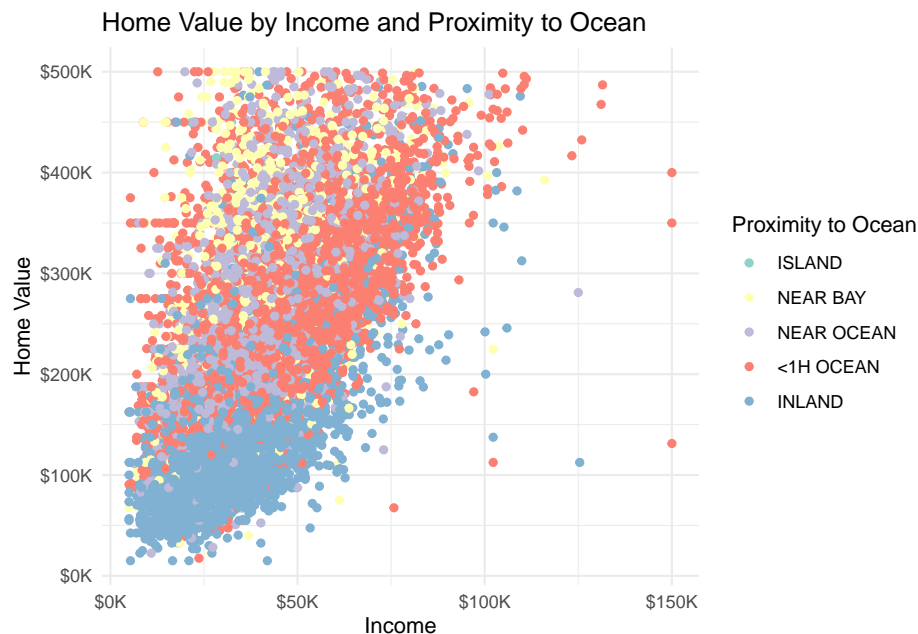
```
## [1] "/Users/katherinebyrne/Desktop/EDUC 260B/ps3_directory/analysis"
```

```
## [1] "housing.RDS"
```

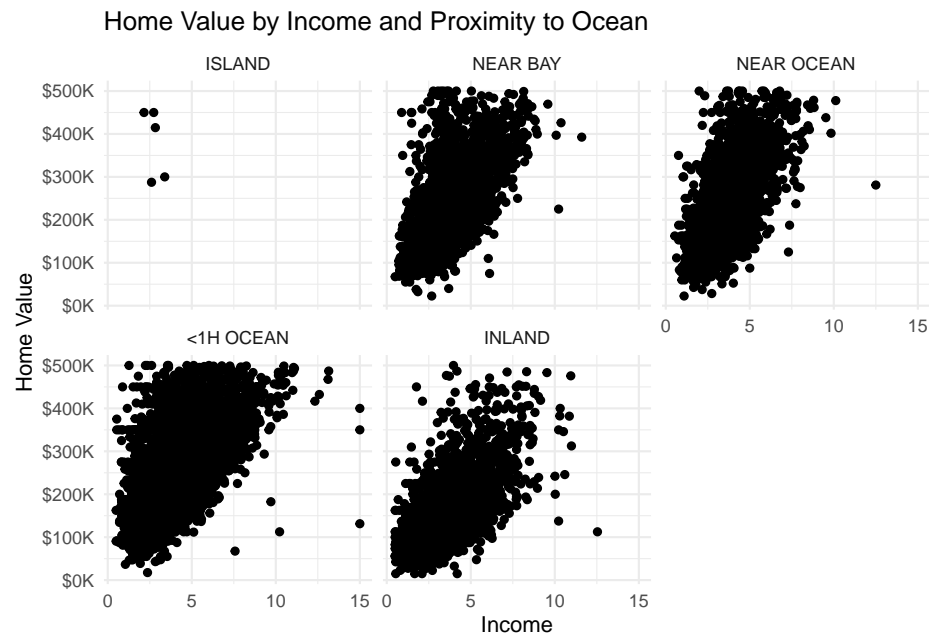
longitude	latitude	housing_median_age	total_rooms	total_bedrooms	population	households	median_income	median_house_value	ocean_proximity
-122.23	37.88	41	880	129	322	126	8.3252	452600	NEAR BAY
-122.22	37.86	21	7099	1106	2401	1138	8.3014	358500	NEAR BAY
-122.24	37.85	52	1467	190	496	177	7.2574	352100	NEAR BAY
-122.25	37.85	52	1274	235	558	219	5.6431	341300	NEAR BAY
-122.25	37.85	52	1627	280	565	259	3.8462	342200	NEAR BAY
-122.25	37.85	52	919	213	413	193	4.0368	269700	NEAR BAY
-122.25	37.84	52	2535	489	1094	514	3.6591	299200	NEAR BAY
-122.25	37.84	52	3104	687	1157	647	3.1200	241400	NEAR BAY
-122.26	37.84	42	2555	665	1206	595	2.0804	226700	NEAR BAY
-122.25	37.84	52	3549	707	1551	714	3.6912	261100	NEAR BAY

Data analysis

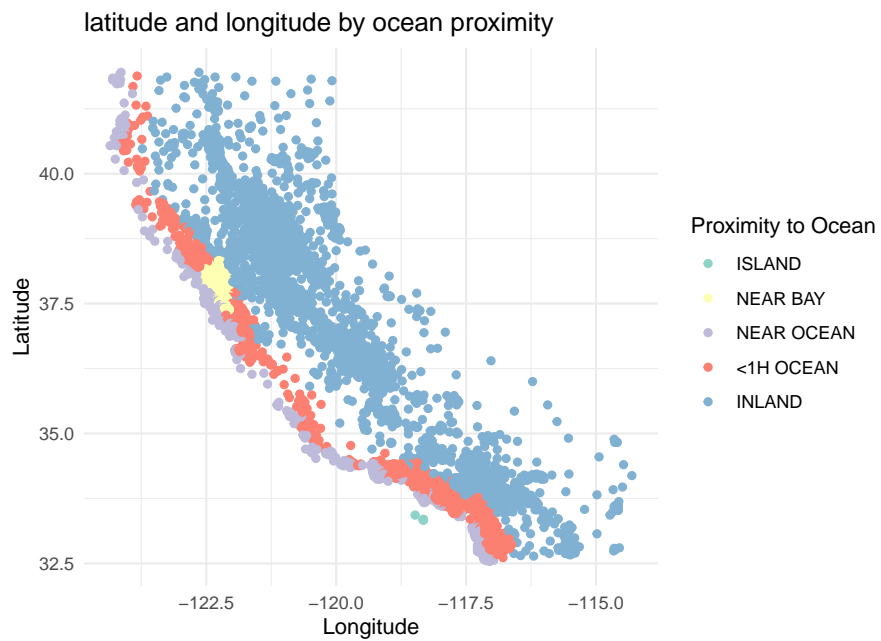
#The homes inland cost the least money and are purchased more often by those with the lowest income.



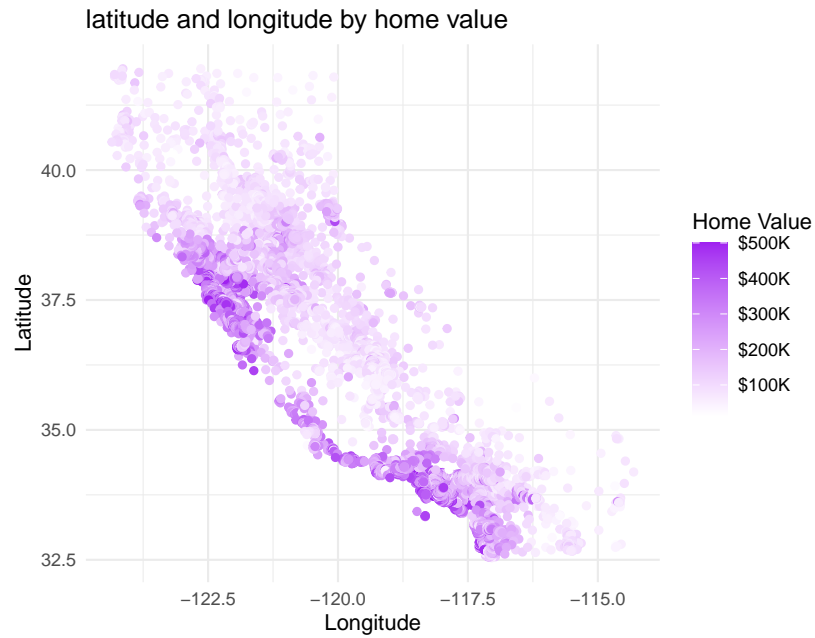
#Most homes are not on an island.



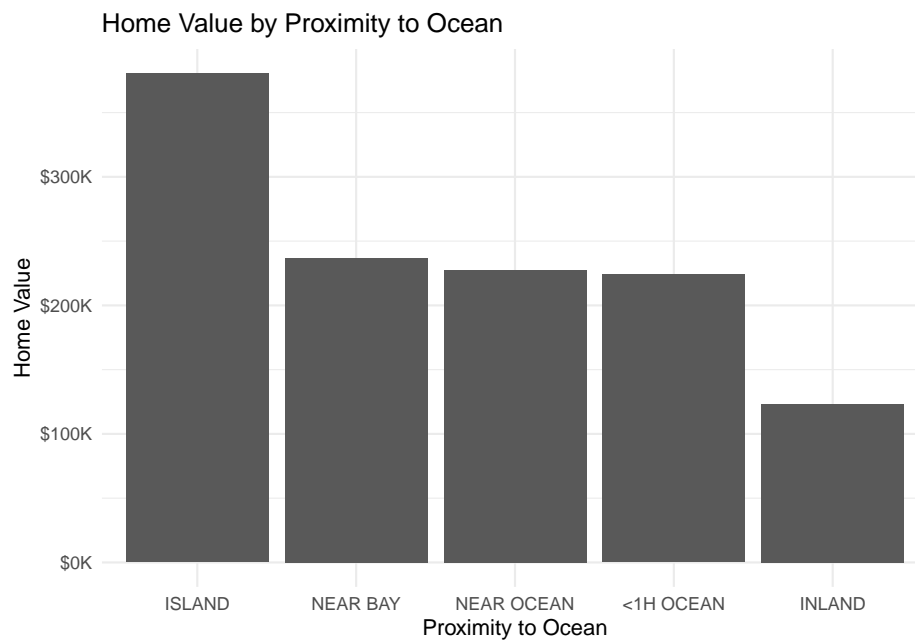
#Homes by the ocean are between -125 and -117.5 degrees longitude.



#Homes by 40 degrees latitude are less expensive than 37.5 degrees latitude.

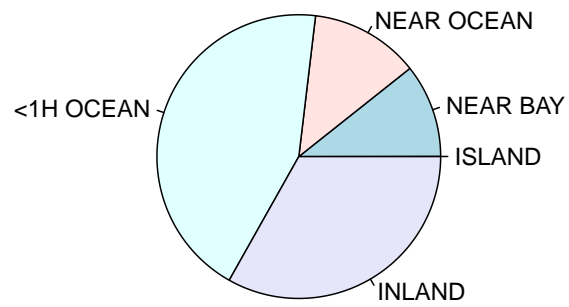


#Houses on the island are the most expensive.



Bonus Plot: This chart shows the split of the quantity of houses in terms of their distance to the ocean.

Count of People Living Near Water



References

Pace, Kelley R., & Barry, R. (1997). Sparse spatial autoregressions. *Statistics and Probability Letters*, 33(3), 291–297.