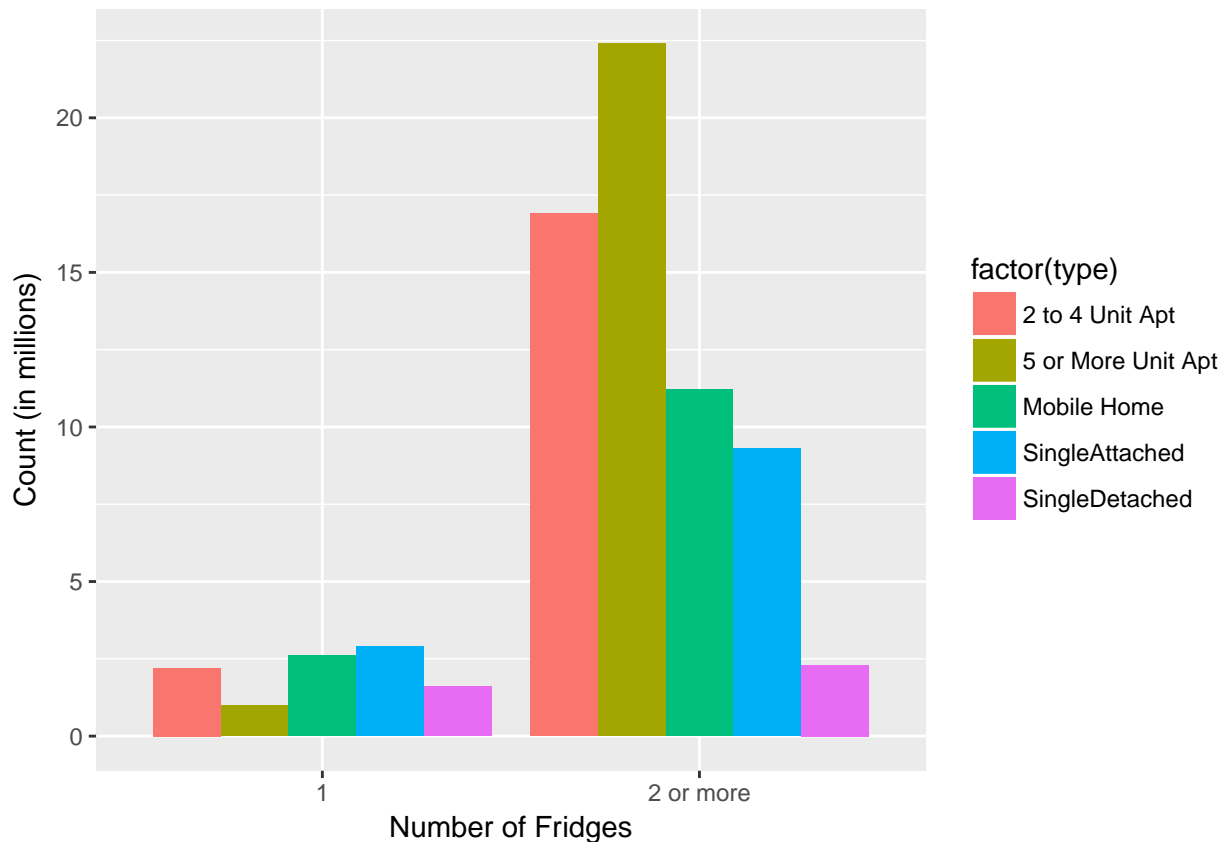


Fridge10.10

In this document, we explore refrigerator data based on type of houses, climate region and household income.

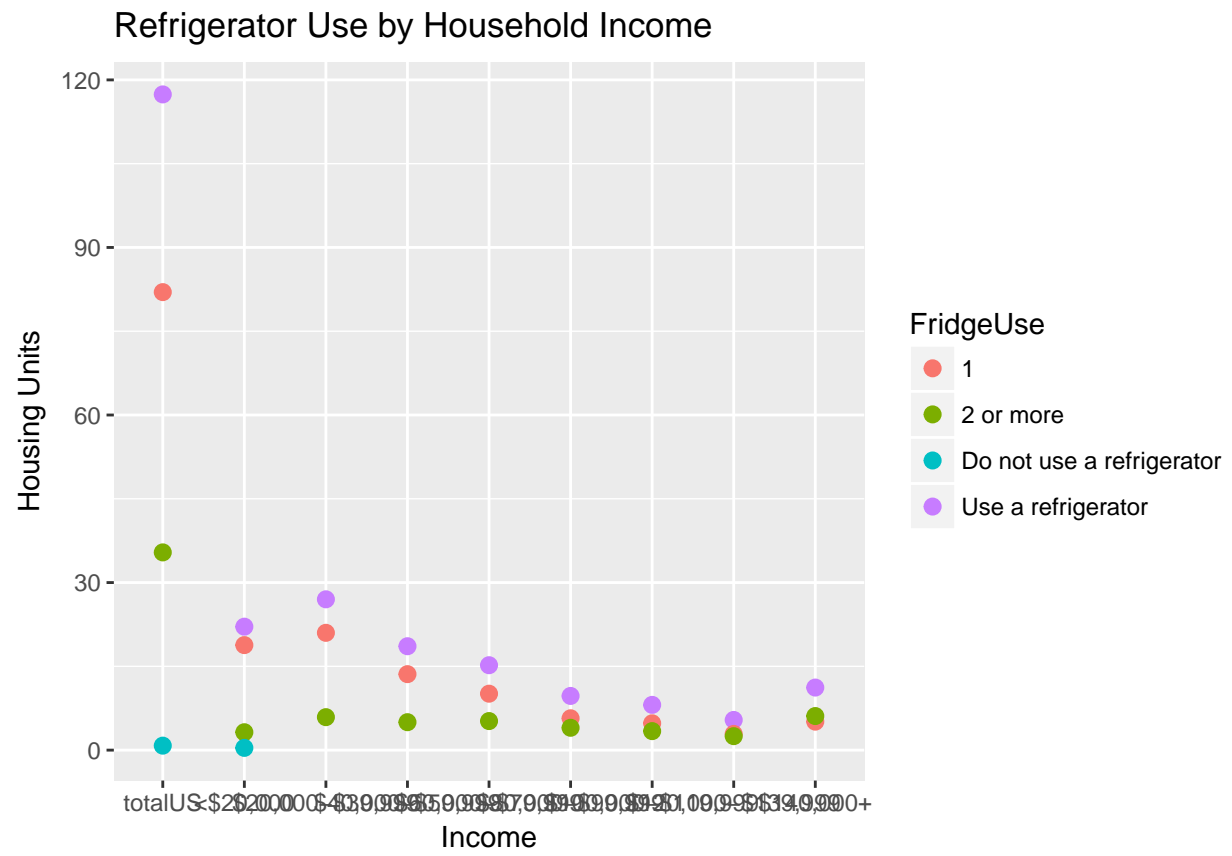
To begin with, let's look at the fridges used according to types of houses.



For households using 2 or more fridges, we can see a spike for 5 or more unit apartments. More units mean more refrigerators.

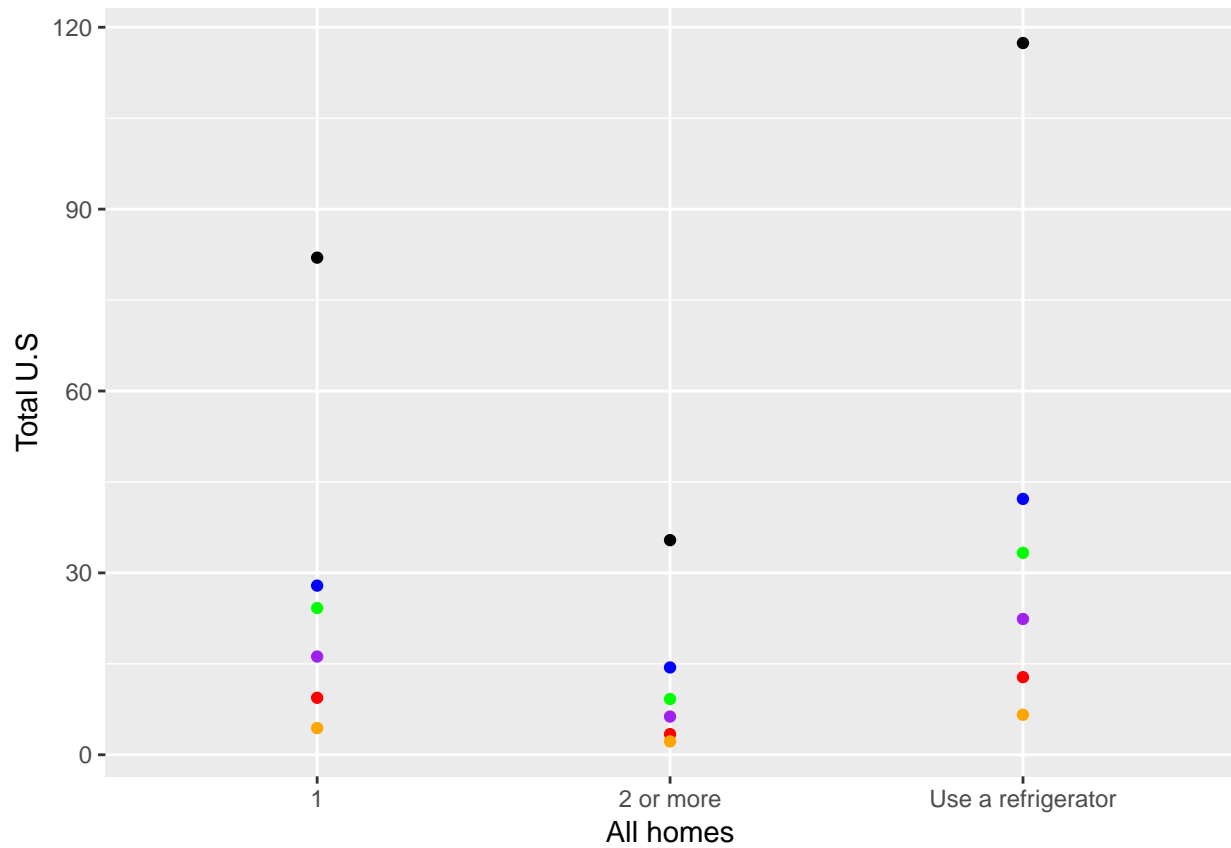
Number of refrigerators by income

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There is a spike in refrigerators used in the 20-40k income bracket.

Number of refrigerators by climate region

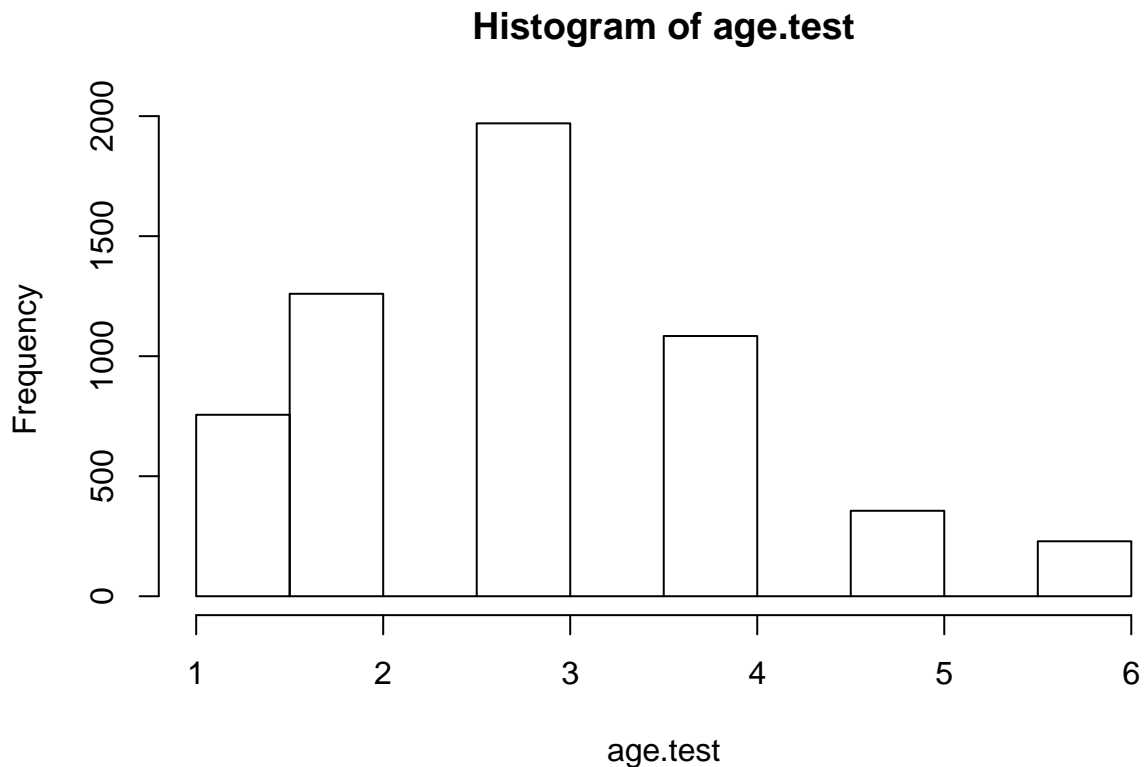


From this we observe that colder regions use the most refrigerators. The second highest use is seen in humid climates.

So now we know that houses with 5 or more units, 20-40k income and cold regions are our targets.

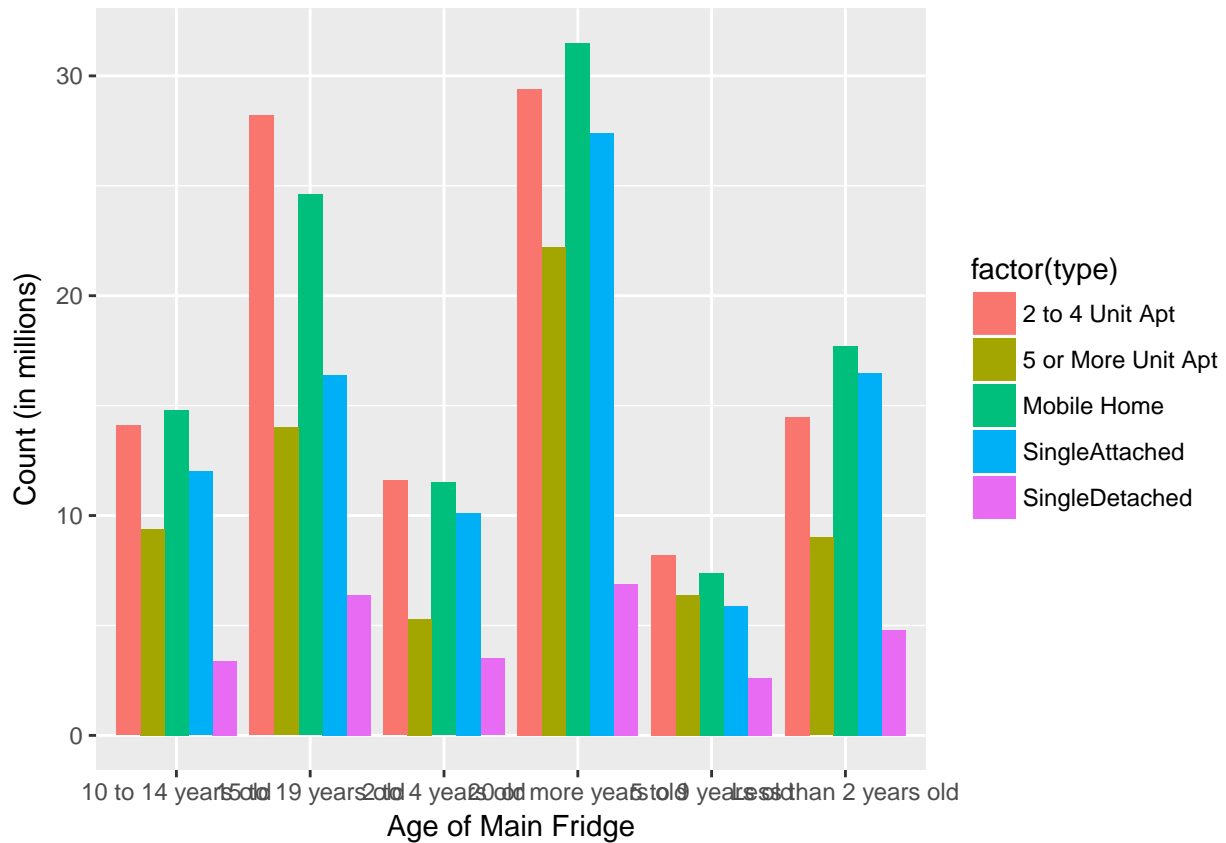
We don't know how often these targeted clients buy refrigerators. Let's look at age of refrigerators across type of houses, income and climate regions.

This is the general distribution of refrigerator age.



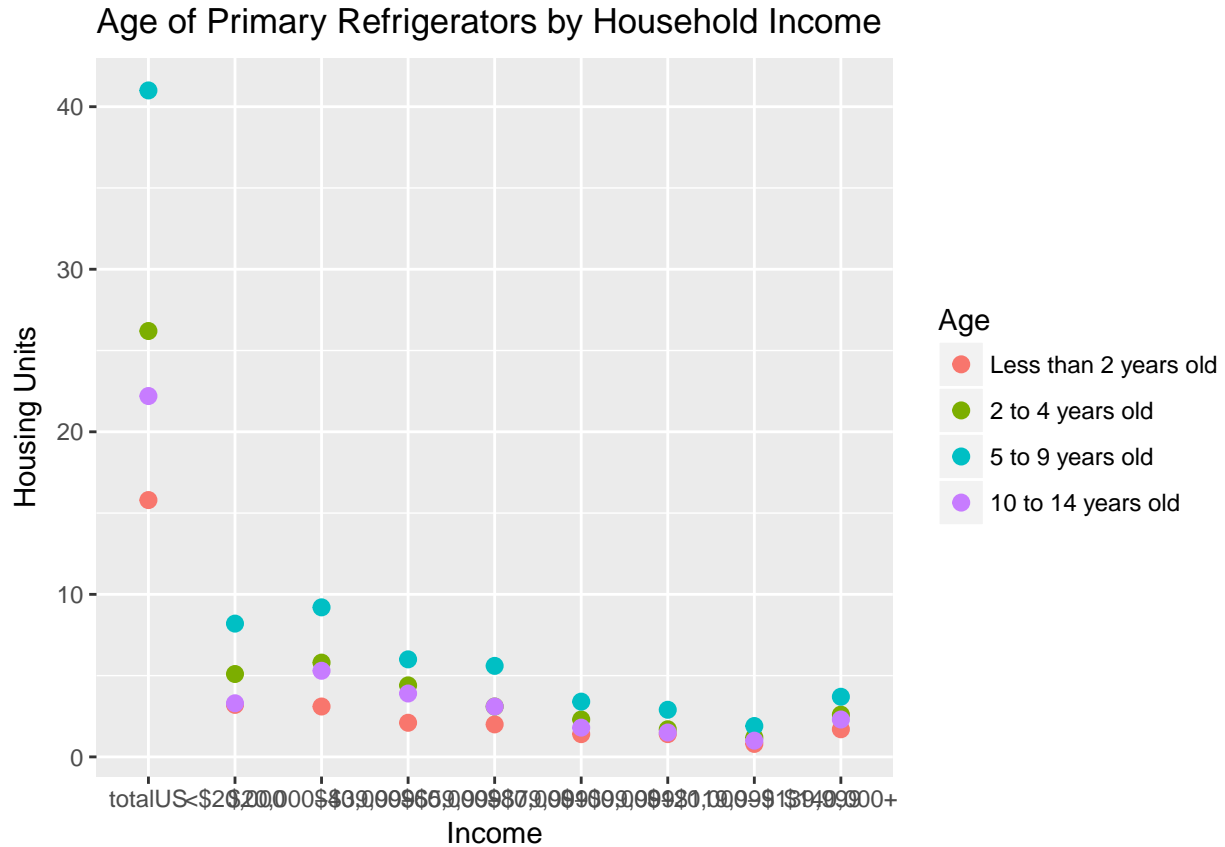
We can see that most refrigerators are 2.5-3 years old. Let's look at how each parameter changes this general observation.

Age of refrigerator by type of house



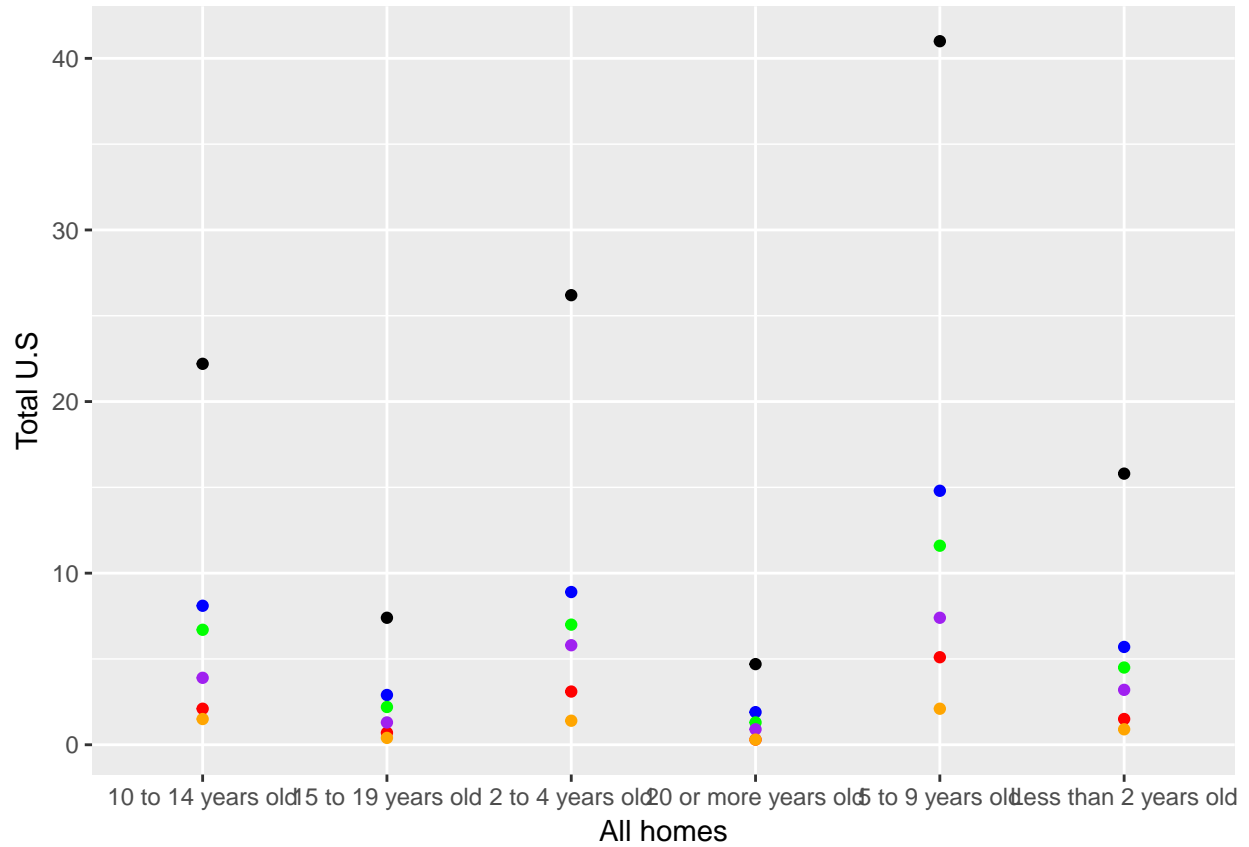
We can see that there's a substantial increase in the usage of older refrigerators, observed in the mobile homes and 2-4 unit apts using older refrigerators.

Age of refrigerator by income



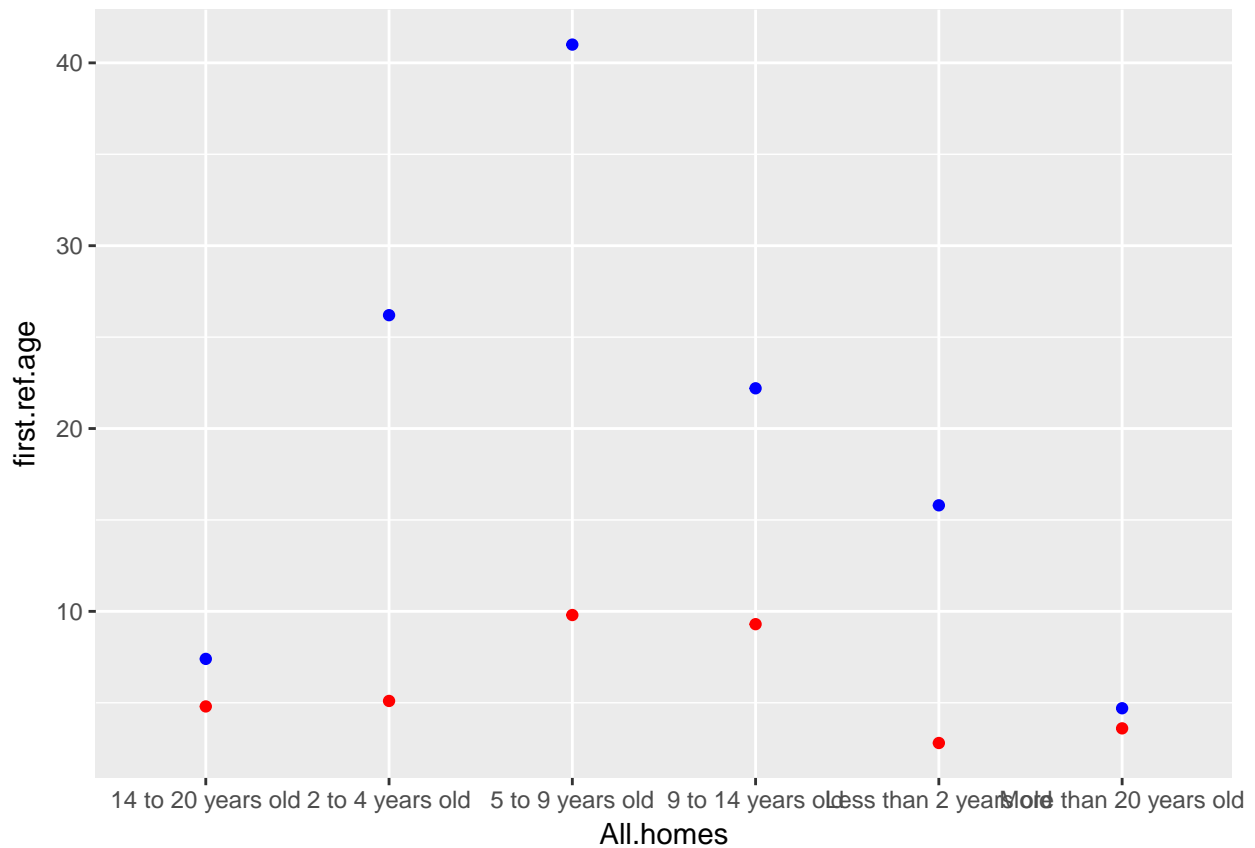
From this we see that most families across all income brackets use 5-9 year old refrigerators.

Age of refrigerator by climate region



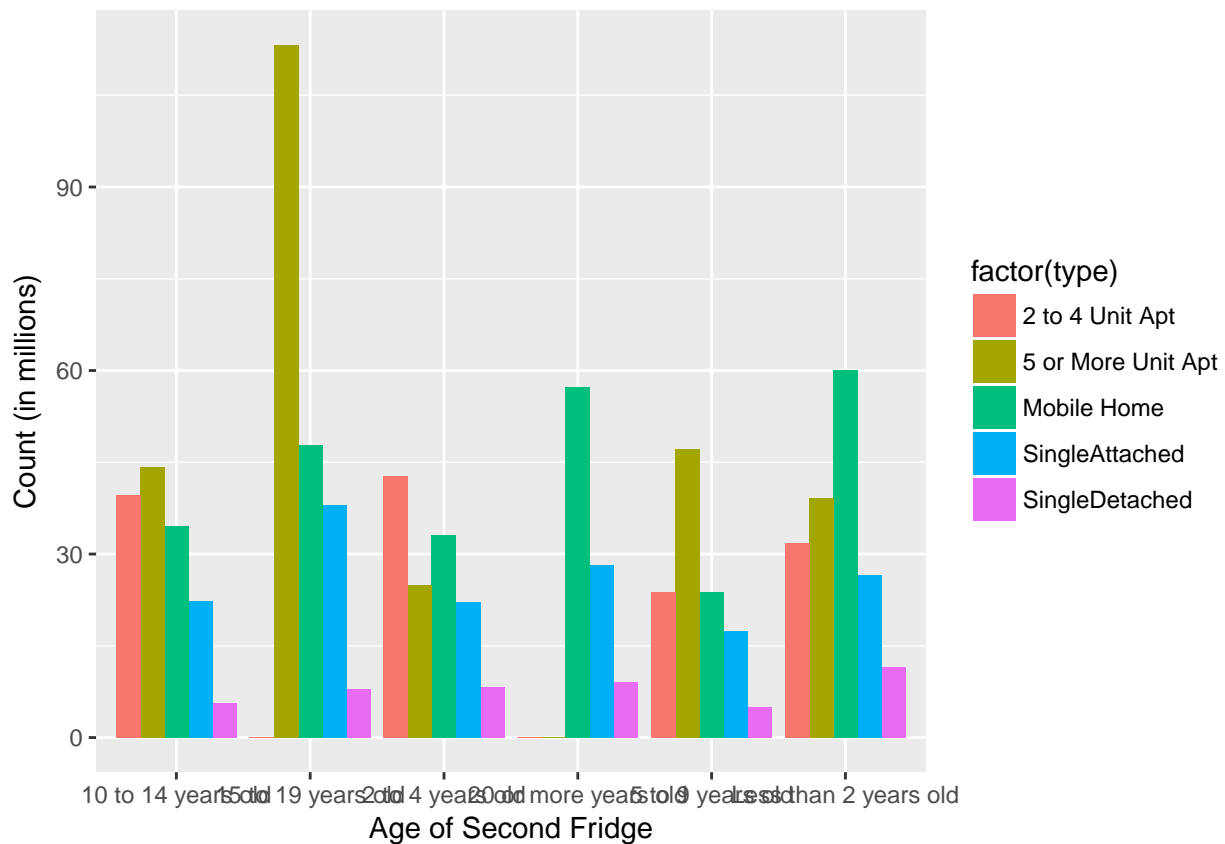
We see from this scatterplot that people in all climate regions have refrigerators that range between 2 to 9 years old. Very cold and humid regions are the best consumers.

But we know that a lot of people have more than one fridge. How does the second fridge compare to the first one? Let's see



We see here that the second refrigerator is usually between 5-14 years old, which means people have older second refrigerators. Another observation that confirms this is the similar amount of fridges more than 20 years old.

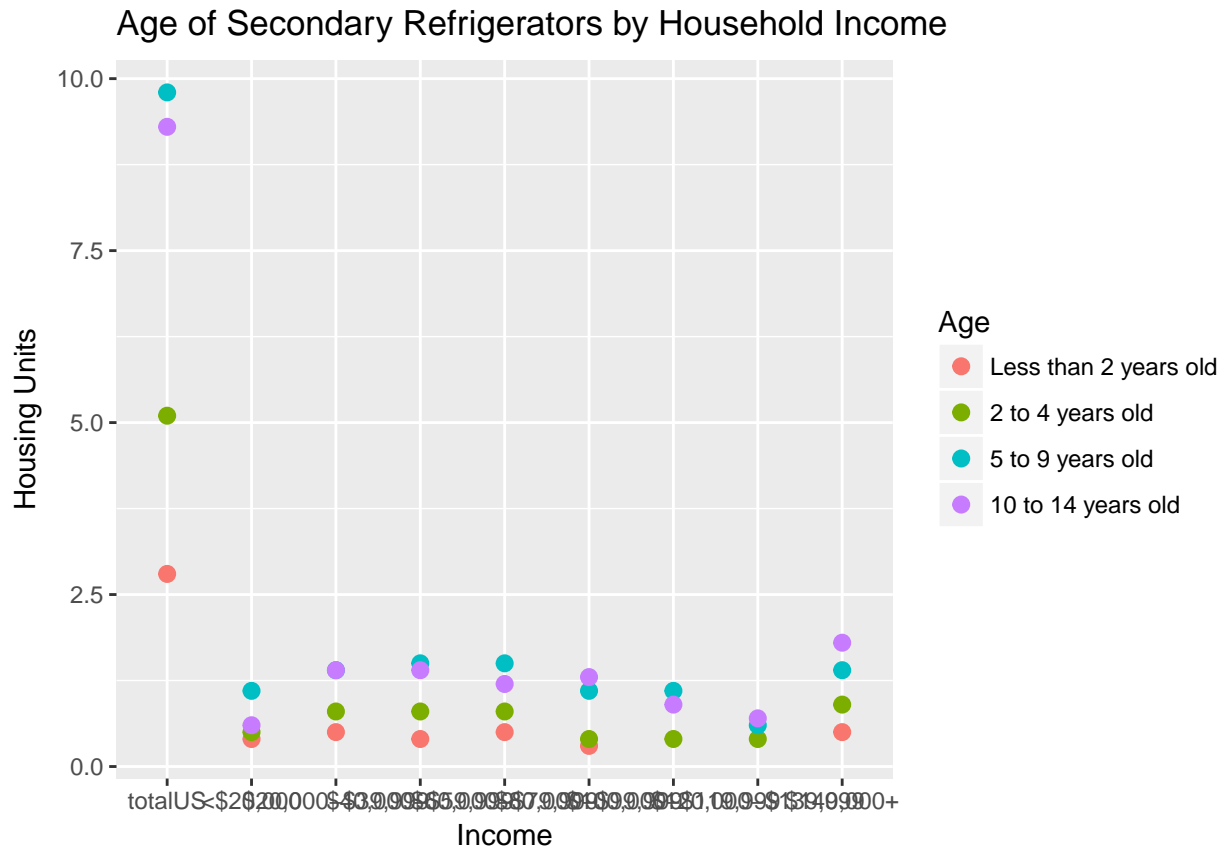
Age of second refrigerator by type of house



Here we see that 5 or more unit apartments use second refrigerators that are 15-19 years old. That means the second refrigerators are newer than the first refrigerators in these units.

Age of second refrigerator by Income

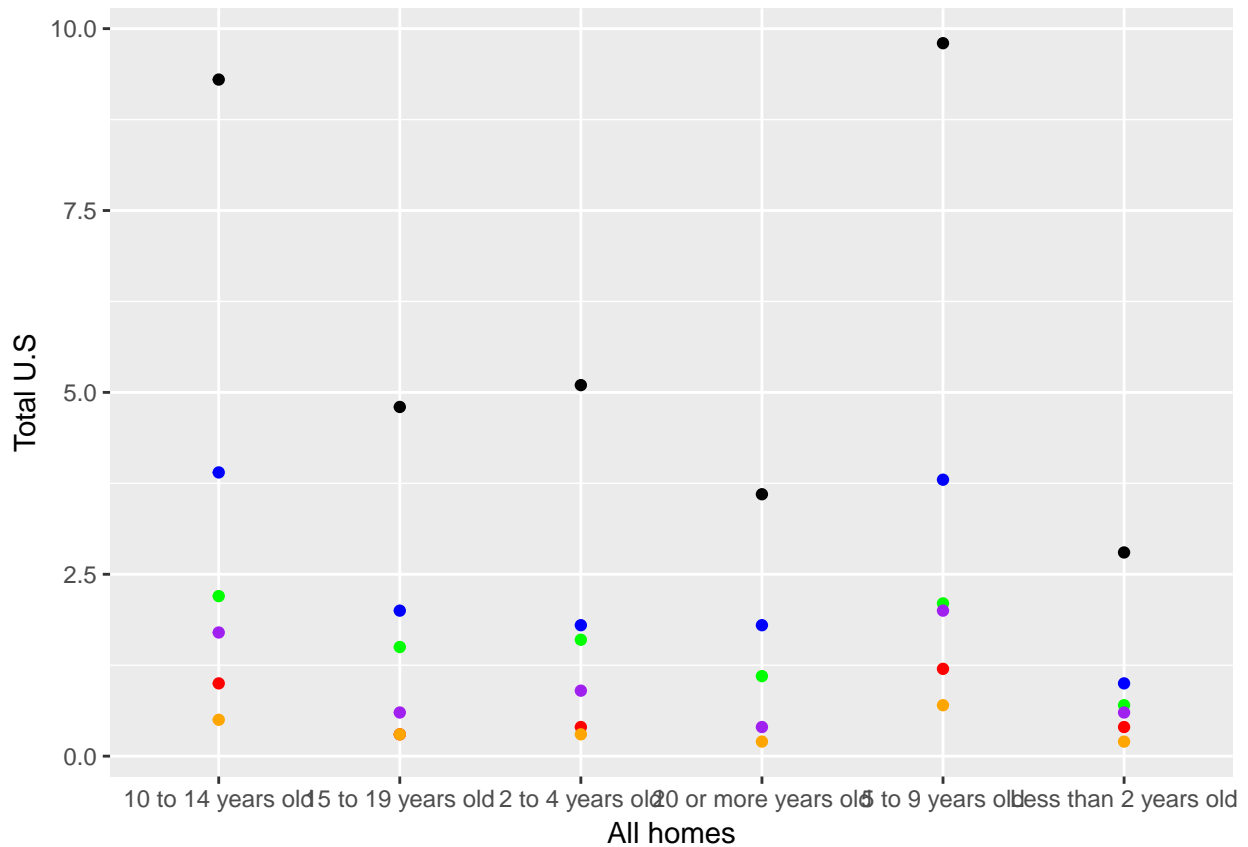
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Here we see that age of refrigerators is evenly spaced out across all income brackets. You'd think that the richer people would have newer second refrigerators, but that isn't what's happening.

Age of second refrigerator by Climate

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We see here that hot and humid climates tend to have second refrigerators that are between 5-14 years old.

From all this EDA, we know what climate regions, incomes and types of houses we have to target. Age told us how often people buy refrigerators in terms of these parameters. Promotions and exchange schemes can help boost sales in regions and types of houses that show low numbers as of now.