IT351 Assignment

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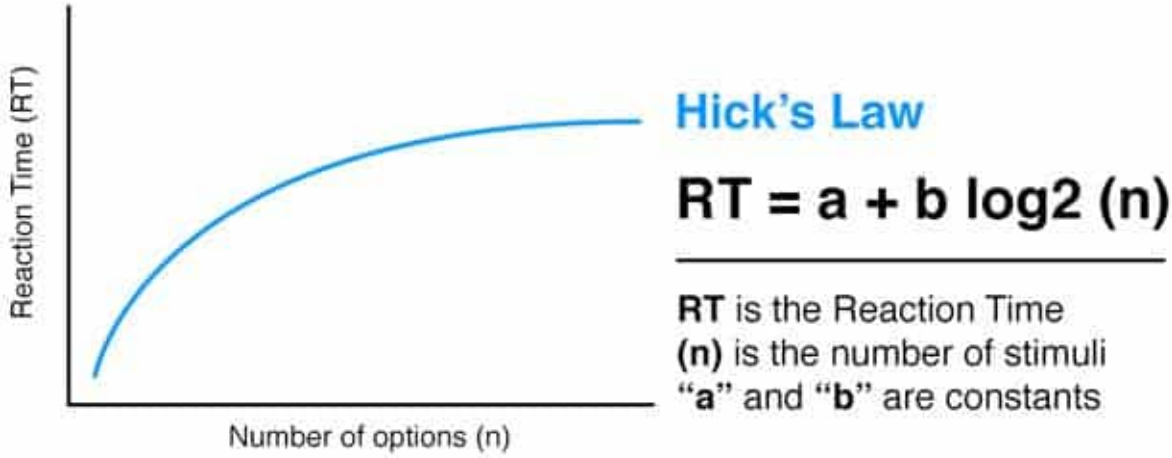


H = Entropy
H is calculated as $H = \log_2(n)$ where "n" is the number of choices to choose from.

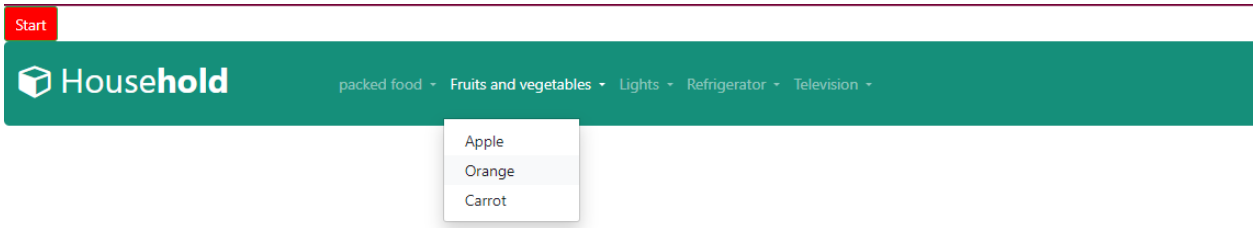
Hick's law, also known as the Hick-Hyman law, states that the time it takes for a person to make a decision increases logarithmically with the number of choices or stimuli they are presented with. In other words, as the number of options increases, the time it takes to decide also increases. This law is often used to explain the importance of simplicity and reducing the number of options in various fields, including user interface design, advertising, and product development.

Details about experiment conducted:

Initially a start button was given to the user. On clicking this button the options for are provided in navbar. 3 alternatives with a different numbers of options were created. In all the alternatives it was assumed that the user wanted to buy oranges

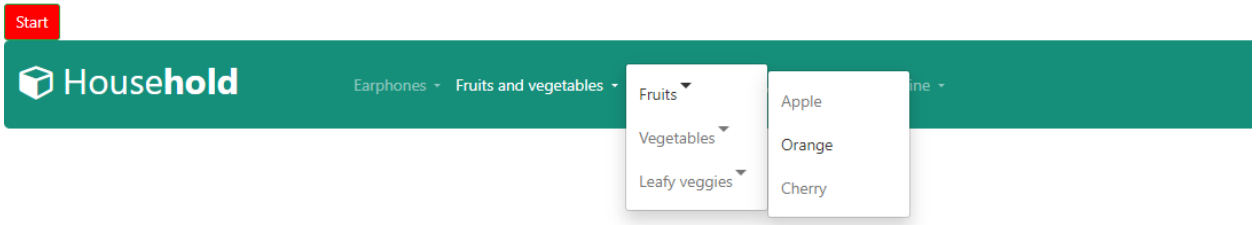
Alternative-1

This alternative of the experiment had 8 options when the user wants to buy oranges. The duration was noted when the user finally clicks on oranges.



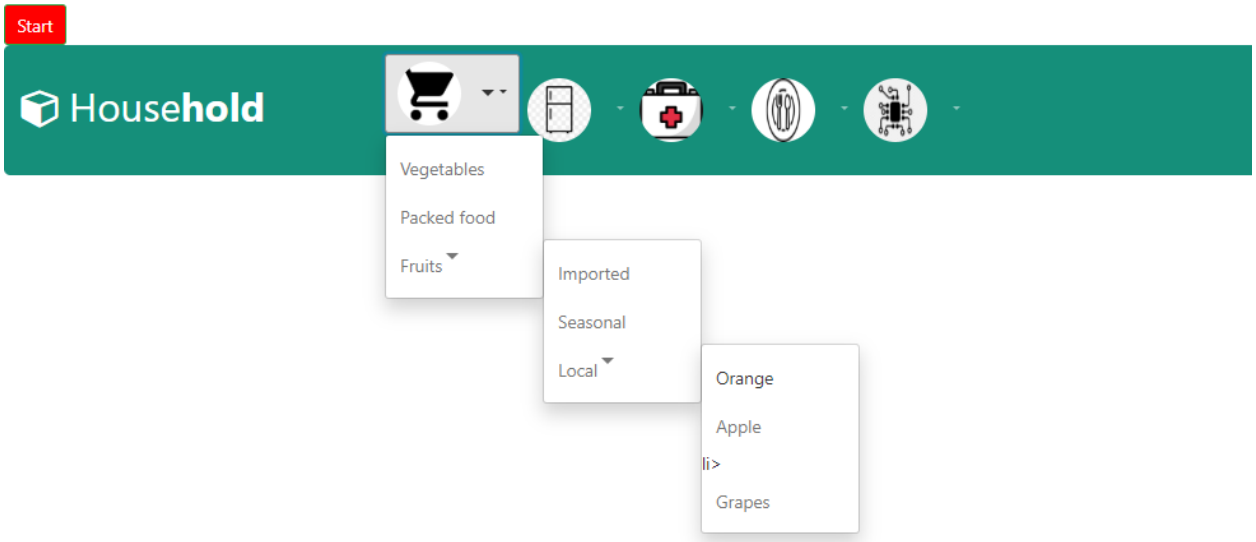
Alternative-2

This alternative of the experiment had 11 options when the user wants to buy oranges. The duration was noted when the user finally clicks on oranges.



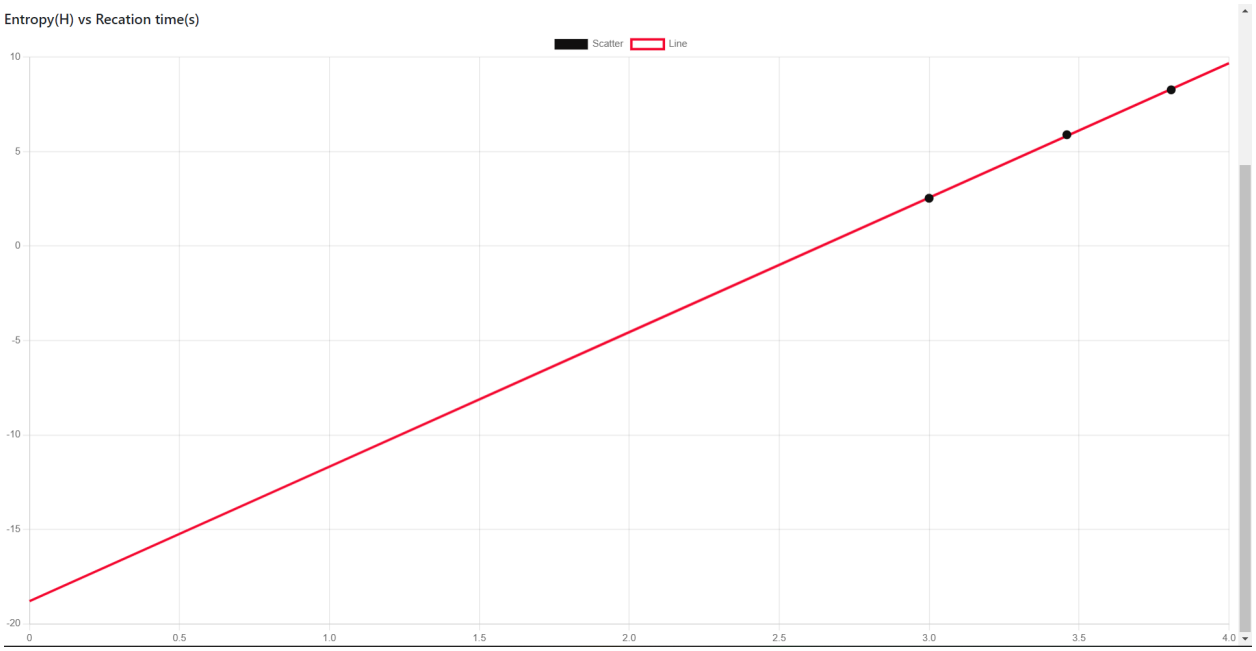
Alternative-3

This alternative of the experiment had 14 options when the user wants to buy oranges. The duration was noted when the user finally clicks on oranges.



Then a graph between the Entropy(H) and reaction time(s) was plotted and values of a and b were printed in the console.

Graph

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a= -18.801174768491325        gros.js:109
b= 7.120584811586612          gros.js:110
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Conclusion

So we see that after conducting the experiment and plotting the graph Hicks law holds good. the time it takes to make a decision increases logarithmically as the number of choices increases. The conclusion of Hick's Law is that reducing the number of choices can help simplify decision-making and reduce response time. However, this may not always be feasible or desirable, especially in complex decision-making scenarios where a larger set of options may be necessary to achieve optimal outcomes.