On the Job Search

This is a variation on the https://github.com/jlperla/ECON407_2018/blob/master/notebooks/mccall_model.ipynb.

A consumer solves an almost identical problem to that in https://lectures.quantecon.org/jl/mccall_model.html#stochastic-offers

- While unemployed, she gets c unemployment benefits and has a probability γ of getting a new wage offer for next period. As in the previous model, she has the option to accept the offer or to remain unemployed (i.e. choose $\max\{U, V(w')\}$ where w' is the wage offer).
- While employed at wage w, she has a probability α of losing her job
- The new addition: while employed, she has a probability δ of getting a new job offer from the same distribution as that of the unemployed consumers.[1] She has the option of accepting the new offer or keeping her old job (i.e. choose $\max\{V(w), V(w')\}$ where w' is the new draw.
- Otherwise, everything about the setup is the same as the original, including the wage offer distribution, parameter values, etc.

1. What is the new Bellman Equation?
2. Implement the Bellman equation in the code
3. Let $\delta = 0$, and draw a graph of $V(w)$ and U in the same graph (as in the sample code).[2]
4. Start at a small delta (e.g. $\delta = 0.01$) and then increase δ until it is visibly difference between the δ and the $\delta = 0$ cases
5. Do the same plots as https://github.com/jlperla/ECON407_2018/blob/master/notebooks/mccall_model.ipynb including a graph of the reservation wage.
6. Do an additional plot of the reservation wage as a function of δ

[1] Note that the probability to keep a job with wage w without any arrivals of new draws or separations is is now $1 - \alpha - \delta$.

[2] A good check on your implementation is that this is identical to the previous graph