**MMM - Problem Set 4**

Homework is due to **4th January 2024 23:59.** If you face any problem with uploading files, send the files via email to [josef.strasky@gmail.com](mailto:josef.strasky@gmail.com).

1. **Heterogeneous Agents Model**

Use the jupyter notebook from Moodle ([HAM\_HA.ipynb](http://127.0.0.1:8889/notebooks/HAM_HA.ipynb))

Study the provided code and plotted graph. Answer all questions in the notebook.

1. **Linearized Sollow**

Let us have following differential equation (actually, it is central equation of Solow model with Cobb-Douglas function):



1. find a fixed point (equilibrium) *k\* > 0*, by hand-writing
2. establish whether equilibrium is stable
3. linearize around the equilibrium (hand-writing)

Now assume that:

*a* = 4 α = 0.3 *s* = 0.05 δ = 0.5 *n* = 0.05

1. calculate the value of equilibrium *k\** given the parameters using Python
2. plot phase diagram of the differential equation ( as a function of *k*) and linearized equation ( as a function of ) with given parameters using Python