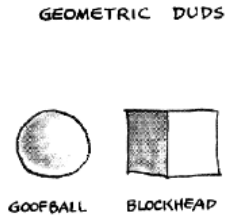
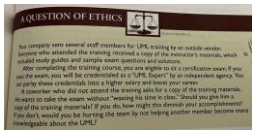
Wk	Focus & Medium	Weekly Topic & Assignment
3 9/12 - 9/17	**Focus** **Overview** **Reading Tilley, Ch6 entire chapter**  **ethics discussion text tilley p196**  	• Perform hands-on activities in Python to learn object-oriented programming(OOP) working with strings, dictionary, tuple, list, set, function, and objects. • As a team, outline system and code objects to simulate system analysis exercises. • Code is provided for you to re-type and learn. • Use cases will grow your confidence. Tilley details old and new techniques for systems modeling, like business process modeling (BPM) (ch1-2), data flow diagrams (DFD) (ch4), and data and process modeling (ch5). Exercises focus on techniques but with little substantiated in the field outcomes. Python hands-on OOP work will replicate varying Tilly processes, such as pg 155-163, with Python data objects (strings, list, etc.), building knowledge of what programmers do. It connects you closely to realistic outcomes of systems analysis and design work. And position you to learn quickly any systems anal. method. A final benefit of the Python OOP work is today's systems analysis, and design do a lot of work extracting and translating information. The result is challenging, but you will know more about it and how not to perform senseless internet searches looking for ideas.approaches to tackle it. **Tilley, Ch6: Overview** • The chapter does an excellent job detailing the components with little to no "geometric duds." • Notice by end of chapter everything you have done to this point is repeated here. Curious! **Python Training:** • By Wed you will be provided with customized training to support this work. It will have all that you need. • Python crash course link below is good to reference and see examples for lists, loops, and similar. Feel free to dig into. • Real world python is super fun training exercises. **Other reference materials** • Matthes, E. (2019), Python Crash Course • Real world Python – FUN training examples • Matthes, Alien Invasion, Ch12. o Note: custom materials being provided replace Matthes chapters 1-11. Good to skim by priority: Ch:9,1,3,6 **Nothing due / Reading Only!** Class will start off discussing pg 196 ethics case study so please simply have your thoughts organized on that.

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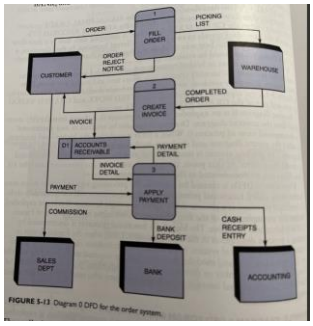
2.2 **9/9**	Focus / Goal lecture notes  **Assignment** **A. Reading** ○ **Tilley,Ch5** **B. Install Python** **Good luck w install!**	**Goal:** wrap-up historical influence of business process reengineering • **lecture notes:** BPS's evolution with invention of machine learning and data warehousing. The institutionalized game changer of Amazon's kiva robotics **Ch5: data and process modeling** • data flow diagramming uses mostly an agreed upon set of symbols to represent processes, data flows, data stories and entities like transactions or physical items like a deposit ticket and goods. • the goal is to represent the information to be encoded by database programmers and develop apps that negotiate the transactions. • this class is less concerned on formality of box symbols but use circles to start and end a process, diamonds for decisions and rectangles for activities. • pg 153, agreed! try not to cross lines when building. • pg 155-159 does a nice job representing an actual system we could easilly and realistic code for on hands-on pyton activities. • Unlike the book are goal is not to "write" about doing this work but actually code it using standard python data objects of lists, strings, dictionaries, tuples, and sets. a) **Reading:** Tilley, ch5, pgs 144-163 b) **Install Python** • **Please watch video (i). The best course of action is installation via anaconda b.c it is engineered to auto-fix MANY challenges. However, if done wrong, the 1st time may take => 2-3x more work/time to fix. You "do not" have to figure this out yourself so please reach out with any questions.** **i.** 1.3M views on YouTube: Install Anaconda Python, Jupyter Notebook And Spyder on Windows 10 - YouTube **ii.** good start place = jupyter notebook classic home **iii.** Jupyter :: Anaconda.org **Python cloud** • **online\cloud Jupyter Notebook:** • online alternative - works great ! • https://jupyter.org/try-jupyter/lab/ • JupyterLite — JupyterLite 0.1.0-beta.12 documentation

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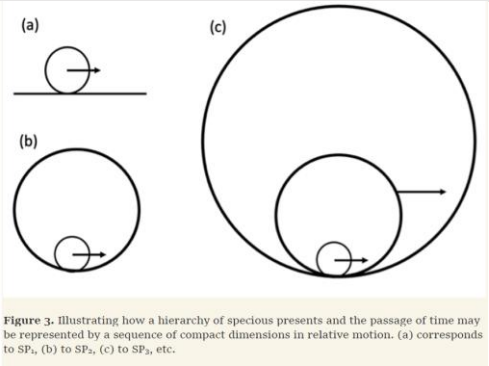
2.1	Overview Podcast / Video **Run videos at speed 1.25** Focus / Goal **Model.2:SWOT** **Model.2:SWOT. Decision.Book** **perception... cartoon** 	**Ch2: Overview** o ch2 directs focus to business cases and how to identify a system for analysis. It augments learnings with factors contributing to project success/failure, purpose+ how.to a perform feasibility study, align priorities, and perform an preliminary investigation. o Section 2.9, "Preliminary Investigation" (p.26), outlines your revolving course focus building skills and techniques in o **Abstraction:** Which tool-kit model will help me quickly assess the situation asked of me? ▪ Quick assessments illustrate your ability to another party to grok salient factors, exercise skill by presenting a visual or data dashboard, and communicate back to manager or stakeholder. ▪ *Why should person X trust you*? Your responsible for building trust b/c it gets you access to more resources and what you need most, time. o **Data:** What data collection strategy will help me access inputs, outputs, resources, and constraints? o **Situational awareness:** After presenting initial response to business owner, what kind of model support, time, and resources do I have? Do I need? ✓ info.Tech resources usually can help get process metrics, source metric data, and any other information to meet your analysis goals. ✓ Data not what you need? Initiate estimation work. ✓ Today, operations often have project planning documents associated with the system workflow you should inspect while applying your abstraction work. ✓ **SWOT.** When in doubt fall back to basics to help assess a situation's status with strengths, weaknesses, opportunities, and threats (tilley.45, krogerus.tschappelerp.12). **Perception & time <philosophy>:**  **Figure 3.** Illustrating how a hierarchy of specious presents and the passage of time may be represented by a sequence of compact dimensions in relative motion. (a) corresponds to SP_1, (b) to SP_2, (c) to SP_3, etc. link physical space, perceptual space, and memory o the course is not designed to dive deep into perception, time, and points of view. For systems modeling, learn to hone your logic representation skills ***and*** figure what you missed. o Do individuals experience time similarly? Does time affect perception? Quality of shared information?

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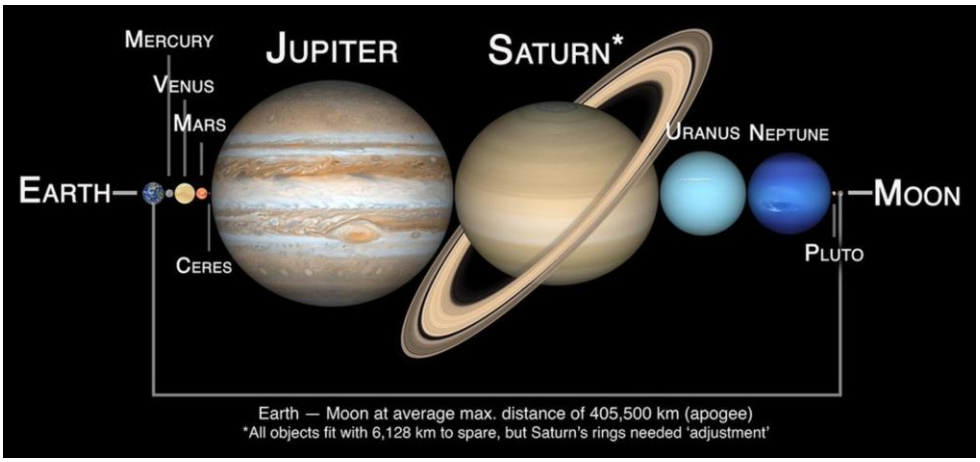
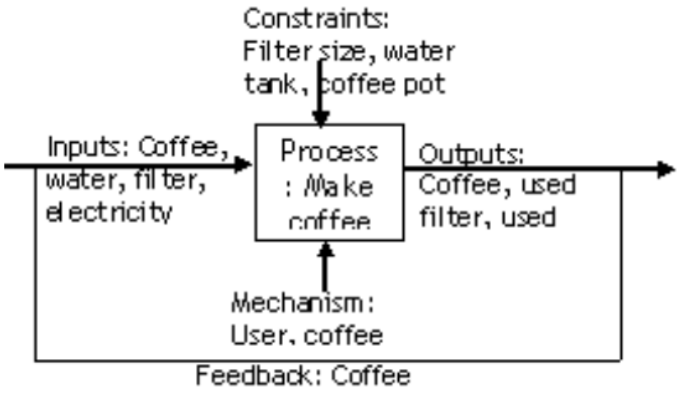
1.2	Model.3: Swimlane IT Order Harmonization Example model.3.swimlane <bh.github> <how.to.doc> <wikipedia> sorry! in github you have to download to get link to work or use them here Artemis I Space Launch System unmanned Moon mission Swimlane Assignment request by 9/6 @6ish PM	**Model.3.Swimlane** **Purpose:** use horizontal or vertical gradating color bars to demarcate business lines illustrating system inputs, activities, and decisions connected with arrows. **Assignment: Tilley Ch2 + Roughcut Swimlane diagram** ➢ Swimlanes no longer have notoriety as in 1993, and some IT professionals view them as a hindrance to what they need, that is, codified information. ➢ However, swimlanes are super at helping a senior manager or new employees quickly grasp what an organization is doing and how they are doing it. ➢ **"""You're the only resource, but you can have and do anything you want to do. Please include,"""** ➢ You're the only resource but can have, and do, anything you want to do. Please include, ✓ Square(ish) boxes to represent activities ✓ Lines to connect between activities ✓ Line arrowheads to show directionality between shapes ✓ Diamond(ish) boxes to represent decisions ✓ Text in squares + diamonds + on lines to detail happenings ✓ Optional: add a numeric index for each box & feel free to annotate "anyway" you like.  **Example:** **Earth:Launch ↓** **Mars: Fuel up -> Open solar flares 3 yrs ↓** **Neptune: Turn into nano-space particulates** ❖ **Please email a .jpg, pdf however you build it.** ○ **File\SaveAs\often allows you select type .pdf** **-->'The goal is to be more thoughtful of your logic'<--**

Week	Focus & Medium	Weekly Topic & Assignment
1.1	Reading Podcast / Video What is business process re-engineering? **Run videos at speed 1.25** What is a system? **inputs outputs resources constraints** IDEF0 Handout **Assignment Request for 9/1** Assignment Example page Assignment example **Model.1:IDEF0**	**Tilley, Ch 1.** Intro to Systems Analysis (free link) • 1st chapter is FREE !, use above link • Awareness & Design – Michael Hammer o https://www.youtube.com/watch?v=9oxM5JV7H50 • Business Process Re-engineering explained - o https://www.youtube.com/watch?v=v-jAf7L2Uak ▪ (10.5min/1.25=8.4min) • IBM Business process Analysis (6.5min/1.25=5.2min) o https://www.youtube.com/watch?v=1E6II2U1shY Utilize your abstraction instinct while reading because the name "EMS" isn't important, but the concepts are. https://www.niu.edu/ems/introduction/definition.html 1) definition is page 1 + 8 more pages using <next topic> 2) The EMS model 3) Benefits of EMS 4) Examples of EMS 5) Systems approach 6) Concept diagram <focus and perform abstraction here> 7) Processes, inputs, outputs a. Example of: inputs, outputs, resources, constraints 8) Summary • IDEFØ – Function Modeling Method – IDEF - website o 2nd example of input, output, res., constraint Select a process you love or dislike. Define its input, outputs, resources, and constraints (IORC). Logically what goes into the system is either consumed or comes out. Notate ALL you think of. Then, list 5 to 10 high-level activities performed by the IORC. Use paper and pencil and send me a picture **anytime** end of the day tomorrow. I am only asking for a max of 15 min to whip up. Please spend more if having fun. Thank you for considering this fast turnaround, as I will use all work submitted to start Friday's lecture. Perform work as a team as desired or convenient. https://www.niu.edu/ems/introduction/constraints.html