



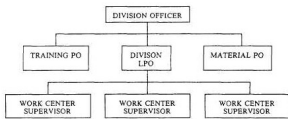
BIF703

System Analysis & Design Diagramming - Part II: System Flowcharts / Gantt Charts



Diagramming

As you may recall from a previous lesson:



Organizational Charts (Hierarchical Diagrams) are used to denote departments and areas of responsibility in an organization. After the observation/interviewing process, an organization chart can be created.



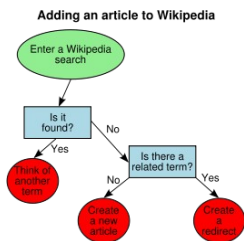
Data-Flow-Diagrams (DFDs) are an efficient method to “break-down” how data is processed into information. In this way, the diagram can show the “flow” of data through a system, including if the data needs to be stored...

Diagramming

In this lesson you will learn two additional diagrams:

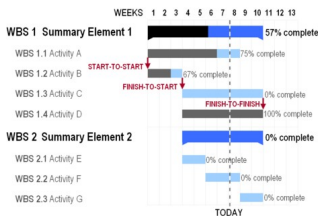
System Flowchart

Used to itemize processing steps in greater detail than with DFDs. Data-Flow-Diagrams are great in their simplicity and assistance with the analysis stage, but system flowcharts will describe the processing steps involving input, output, storage and processing involving *logic*, *loops*, etc.



Gantt Chart

Used to help schedule and plan various stages in a project. The chart usually depicts each phase in the project and a bar graph is displayed beside each phase to show what the beginning and ending time period is allocated to that phase.






Diagramming

Generalized System Flowchart Symbols

 **Input / Output** (used to represent data or information)

 **Process** (step(s) required to process data)

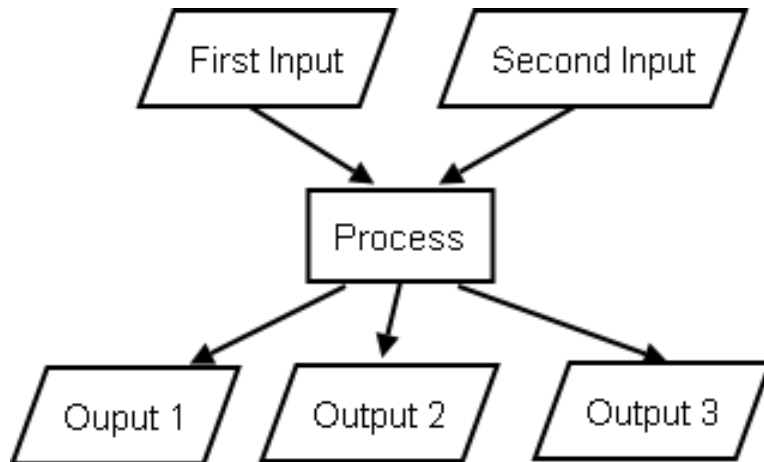
 **Data Flow** (Direction of data Flow Use an arrow)



Diagramming

Generalized System Flowchart Symbols

Example:



Note: Similarly to DFDs, **System Flowcharts** can be generalized, and then can be redrawn to show more processing detail...



Diagramming

Detailed System Flowchart Symbols

Categories:

1. System Input
2. System Output
3. Logic / Loops
4. Miscellaneous



Diagramming

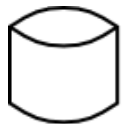
Detailed System Flowchart Symbols (Input)



Source Document (usually paper document)



Keyboard Input (Entering Data via keyboard - eg. scanf)



Hard Disk



Magnetic Tape



Diagramming

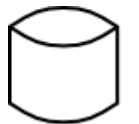
Detailed System Flowchart Symbols (Output)



Source Document (usually paper document - hardcopy)



Video Display (eg. output on screen)



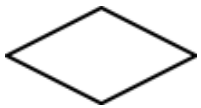
Hard Disk



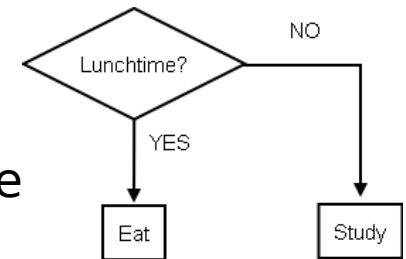
Magnetic Tape

Diagramming

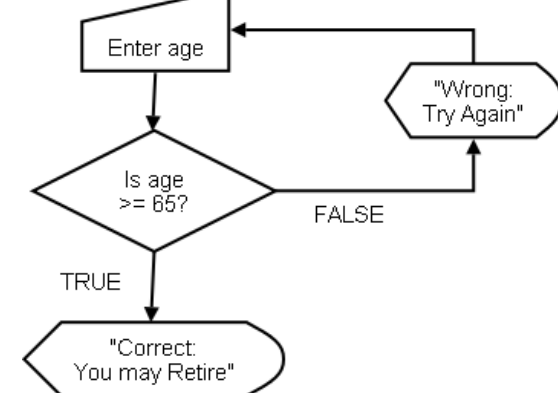
Detailed System Flowchart Symbols (Logic)



Decision (if stmts, case statements, etc)
Usually a test and directional flow is affected



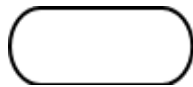
Decision with Loop (Keep looping until test is true)





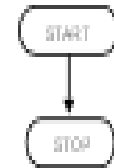
Diagramming

Miscellaneous System Flowchart Symbols



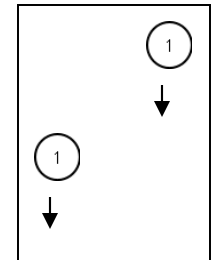
Terminal Connect

(used to denote beginning or end of a sequence - START / STOP)



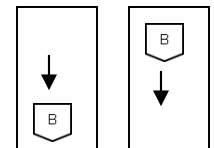
Onpage Connector

(used to continue to top of page to the right of existing flowchart, on same page - to save paper!
Numbers or letters are used to match-up connect flowchart)



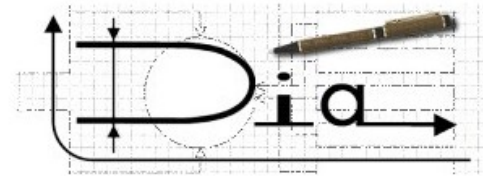
Offpage Connector

(used to continue flowchart on another page.
Numbers or letters are used to connect large flowcharts)

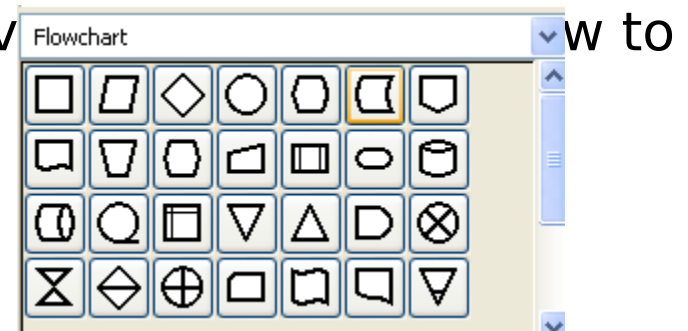


Diagramming

- The **Dia** application is well-suited to create generalized or detailed System Flowcharts.



- You can keep your flowchart symbol category to “Flow Chart”
- This week’s lab will give you the opportunity to create system flowcharts

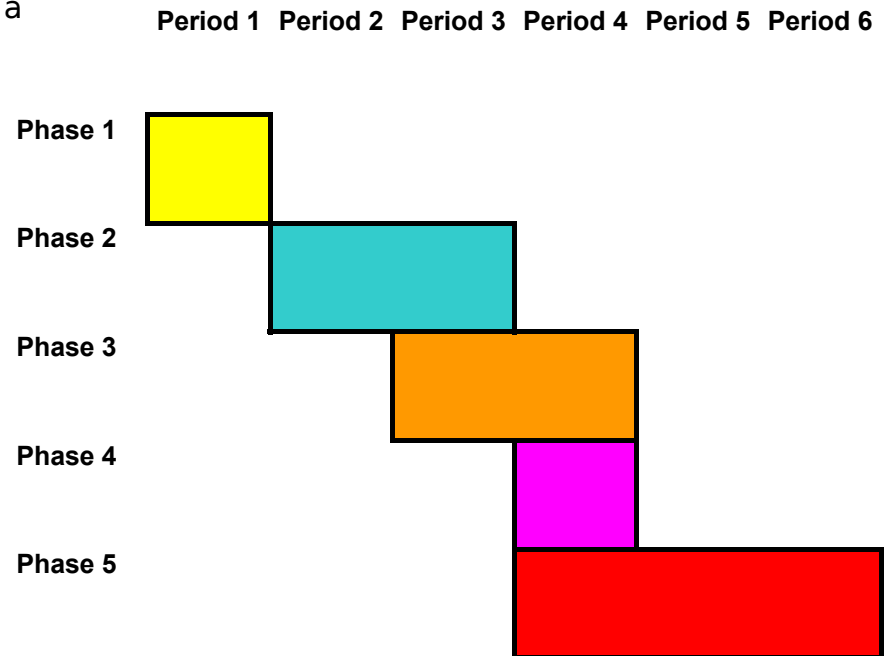


Diagramming

Gantt Chart

As mentioned in a previous slide, the Gantt Chart is used to help schedule and plan various stages in a project.

Hopefully, this diagram will help you to schedule time to complete the project on time, and allow you to compare actual process with your estimated schedule...





Diagramming

- Unfortunately, the [Dia](#) application does not have the resources to create a Gantt chart.
- On the other hand, there are many other applications that are scheduling programs that will help you to document your scheduling tasks, and among other things, will then automatically generate a Gantt chart.
- The [Open Workbench](#) application (that you installed in a previous lab) is free/open-source application (just like *Dia*) that allows you to schedule your project.
- This week's lab will give provide useful tips on how to schedule tasks and generate a Gantt chart with [Open Workbench](#).



Additional Resources

- Here are useful related links:

Flowchart (Various Definitions)

<http://www.answers.com/topic/flowchart>

Gantt Chart (Various Definitions)

<http://www.answers.com/topic/gantt-chart>