ENGR141 Grade Report: Flowcharting PA

Name	Kathryn Atherton	**Total Points Earned**	16.0
Team	59	**Total Points Possible**	20
Grader	Casey Schilling	**Percentage Earned**	80%

Grading System Message(s)	Individual Assignment Grade

Do files:	**Pass**	**Part.**	**Fail**
Have correct filename?	**0**	NA	-0.5
Contain problem statement that accurately describes problem to be solved?	1	0.5	**0**
Do the flowcharts:	**Pass**	**Part.**	**Fail**
Clearly indicate the Start and End?	1	**0.5**	0
Contain a high-level flowchart showing the overall process used?	**1**	0.5	0
Remain programming language independent?	**1**	0.5	0
Contain a detailed flowchart of the overall process using subroutines?	**1**	0.5	0
Include inputs for initial pressure, final pressure, number of pressure increments, gas type, maximum number of iterations, convergence criteria, and output file name?	**1**	0.5	0
Use a conditional structure to determine whether to ask for a and b?	**1**	0.5	0
Compute initial value of v using ideal gas law?	**1**	0.5	0
Compute $f(v_i)$ using correct equation?	**1**	0.5	0
Compute $f'(v_i)$ using correct equation?	**1**	0.5	0
Compute subsequent values of v using Newton-Raphson formula?	**1**	0.5	0
Increment P by the correct amount?	1	**0.5**	0
Loop until tolerance or max number of iterations is reached?	**2**	1	0
Set v to 0 if Newton-Raphson method fails to converge after max number of iterations?	1	0.5	**0**
Output temperature, pressure, molal volume (vdW), iterations, and molal volume (IGL)?	1	**0.5**	0
Stop program once maximum pressure has been reached?	**2**	1	0
Clean and easy to follow?	1	**0.5**	0
Use correct flowcharting symbols?	**1**	0.5	0

Total	**16 of 20**

Grader Comments

For your problem statement, be sure to include major aspects of the problem including inputs, outputs, and the processes to get from inputs to outputs. You want to cover what you're trying to solve and how you intend to solve it.

For start/stops, ensure that there is only ever one start and stop per flow chart, even if it's as simple as a connector from one part to the final "End." This seems simple, but it's representative of how the computer will later solve problems.

For the high level flowchart vs. the full flow chart, they typically shouldn't be copies of each other. This time it was close to accurate since we asked for many sub processes, but just try to aim for slightly higher level next time.

I gave partial credit for the incrementing the pressure value because you never show in the flow chart what the correct incremental pressure value is, so just be aware of details like that. Also partial credit was given for outputs, because you didn't output everything we were looking for and if the iterations reach the max iterations you only output iterations and the convergence values.

Lastly, try to keep you flow charts slightly more linear. There will be times you need to branch off but you should never need to circle around the flowchart. Use connectors if this ever becomes a challenge.

Overall, your detail levels look alright in the full flowchart and subfunctions and really good job include starts/stops and inputs/outputs to the subroutine flowchart.