



different interfaces that encapsulate how we output various sections of the file. Can swap at runtime based on user input to GUI for NPT, NOUT, NARRS

Strategy Design Pattern

```

Runner Pseudocode:
init File in, out
init InputData inData
init Display disp

get input file
get output file
inData.parseFile(in)
init OutputData outData (pass inData to constructor)
outData.writeData(out)
disp.setState(ViewOutputState)
    
```

Don't need NPROB, user can just come back to start and enter data for next problem

Not sure how to show Enum in UML, but this is meant to represent an Enum

See outline here for details

(see p. 166 of Settlements book)

### Output Data:

- header always same (title, ~~NPROB~~, NNP, NBX, NMAP, DX)
- <ModelOutput>
  - if model = Model.ConsolidationSwell: +getOutput(): String
  - else if model = Model.LeonardsElast: ...
  - ...
- <FoundationOutput>
  - if slabFoundation: "Rectangular Slab Foundation"
  - else: "Long Continuous Strip Foundation"
- output foundationDepth, totalDepth
- output table: 

Element	Number of Soil
---------	----------------
- output material info table: 

Material	Specific Gravity	Water Content	Void Ratio
----------	------------------	---------------	------------
- output depth to water table
- <DisplacementInfoOutput>
  - if displayEachDepth: "Displacements at each depth output"
  - else: "Total displacements only"
- <EquilibriumInfoOutput>
  - if !IOption or NOpt:
    - convert to boolean
    - bool(x): if x=1: return True else: return False
  - "Equilibrium Saturated Above Water Table"
  - else: "Equilibrium Hydrostatic Profile Above Water Table"
- output Q, BLEW, BWID
- <ForcePointOutput>
  - if centerForce: "Center of Foundation"
  - else: "Corner of Slab or Edge of Long Strip Footing"
- calculate effective overburden pressure
- SLAB subroutine
  - calculates surcharge pressure using Boussinesq equations?
- <CalculationOutput>
  - if model = model.ConsolidationSwell: subroutine MECH
  - else if model = model.LeonardsElast: subroutine LEON
  - ...
  - etc

IOption	NOPT	OUT
0	0	1
0	1	0
1	0	1
1	1	1

1 = Equilibrium Saturated ...  
0 = Equilibrium hydrostatic ...

See Truth Table