In the Name of GOD

Introduction to CMG

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Keywords – Inputting Data

Data preparation can be done via keyword system or using Model Builder. In this session we review the keyword system to prepare a data set file.

All keywords used to establish a data set can be categorized into 7 families:

1. **I/O control;** controls what is printed out, restart files and .dat file information.

2. **Reservoir description;** input block sizes, permeability, and other geological parameters.

3. **Component properties;** fluid viscosities, solution gas-oil ratios, formation volume factors.

4. **Rock-fluid data;** relative permeability and capillary pressure data.

5. **Initial conditions;** describes how the simulator sets up initial saturations and pressures.

6. **Numerical methods control;** how the simulator solves the equations.

7. **Well data;** controls how the wells are produced and how long the simulation runs take.

In the following table, major and frequently-used keywords are listed for each category:

Category	Keywords		
I/O control	*TITLE1 *TITLE2 *TITLE3 *CASEID *INUNIT *OUTUNIT *RESTART *WRST *WPRN *OUTPRN *WSRF *OUTSRF *DEBUG		
Reservoir description	Geometry:	*GRID *KDIR *DI *DJ *DK *DEPTH *DTOP *RANGE *DUALPOR *DUALPERM	
	Petro-physical:	*NULL *POR *CPOR *PERMI *PERMJ *PERMK *AQUIFER	
Component properties	Black-oil, light oil, oil/water, pseudo-miscible or polymer, … ?	*MODEL	*DENSITY *CO *CVO *BWI *CW *REFPW *VWI *CVW
	Tabular input	*PVT *PVTS	
Rock-fluid data	*ROCKFLUID *RPT *SWT *SLT *RTYPE *SWC *SGC *SORW *SORG		
Initial conditions	*INITIAL *USER_INPUT *PRES *SO *SW *REFDEPTH *DWOC *DGOC *DWGC		
Numerical methods control	*MAXSTEPS *DTMAX *DTMIN *NORM *MAXCHANGE *AIM *CONVERGE *NCUTS		
Well data	*RUN *DATE *DTWELL *DTMAX *DTMIN *AIMWELL *GROUP *WELL *INJECTOR *PRODUCER *SHUTIN *OPEN *INCOMP *OPERATE *MONITOR *GEOMETRY *PERF *PERFB *TARGET *ALTER *STOP		