Knime - Assignment 1

1) Read the adult.csv file available in the data folder on the KNIME Hub. The data are provided by the UCI Machine Learning Repository.

2) Calculate the count and average age of women with income >50K

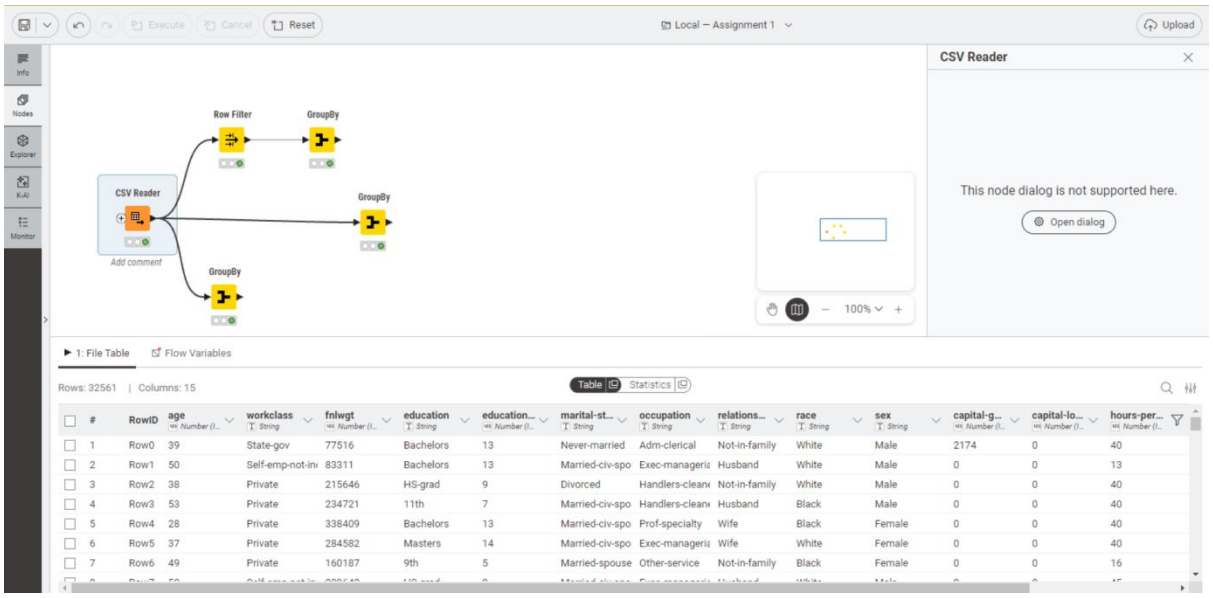
3) Calculate the averages of all numerical columns for each one of the 4 groups defined by sex and income values

4) Calculate

- the number of missing values in the occupation column
- the number of non-missing rows in the occupation column
- the number of rows in the occupation column
- the number of rows in the marital-status column

Notice that the last two aggregations should provide the same numbers!

Step 1: Read CSV File “adult.csv”



#	RowID	age	workclass	fnlwgt	education	education...	marital-st...	occupation	relations...	race	sex	capital-g...	capital-lo...	hours-per...
1	Row0	39	State-gov	77516	Bachelors	13	Never-married	Adm-clerical	Not-in-family	White	Male	2174	0	40
2	Row1	50	Self-emp-not-in	83311	Bachelors	13	Married-civ-spo	Exec-managerial	Husband	White	Male	0	0	13
3	Row2	38	Private	215646	HS-grad	9	Divorced	Handlers-clean	Not-in-family	White	Male	0	0	40
4	Row3	53	Private	234721	11th	7	Married-civ-spo	Handlers-clean	Husband	Black	Male	0	0	40
5	Row4	28	Private	338409	Bachelors	13	Married-civ-spo	Prof-specialty	Wife	Black	Female	0	0	40
6	Row5	37	Private	284582	Masters	14	Married-civ-spo	Exec-managerial	Wife	White	Female	0	0	40
7	Row6	49	Private	160187	9th	5	Married-spouse	Other-service	Not-in-family	Black	Female	0	0	16

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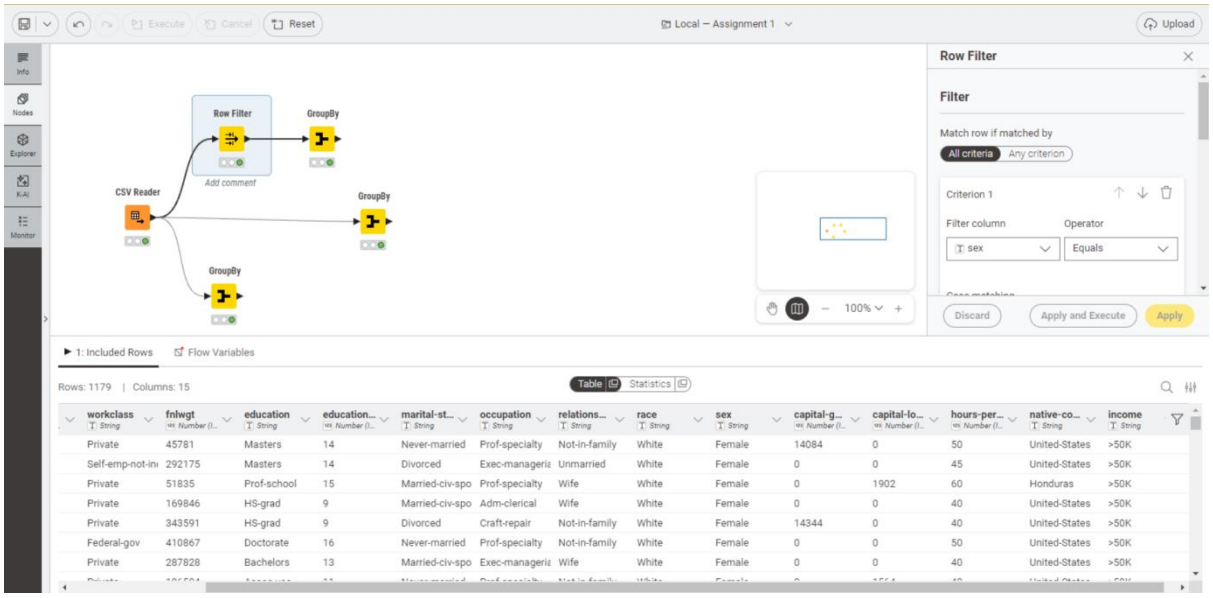
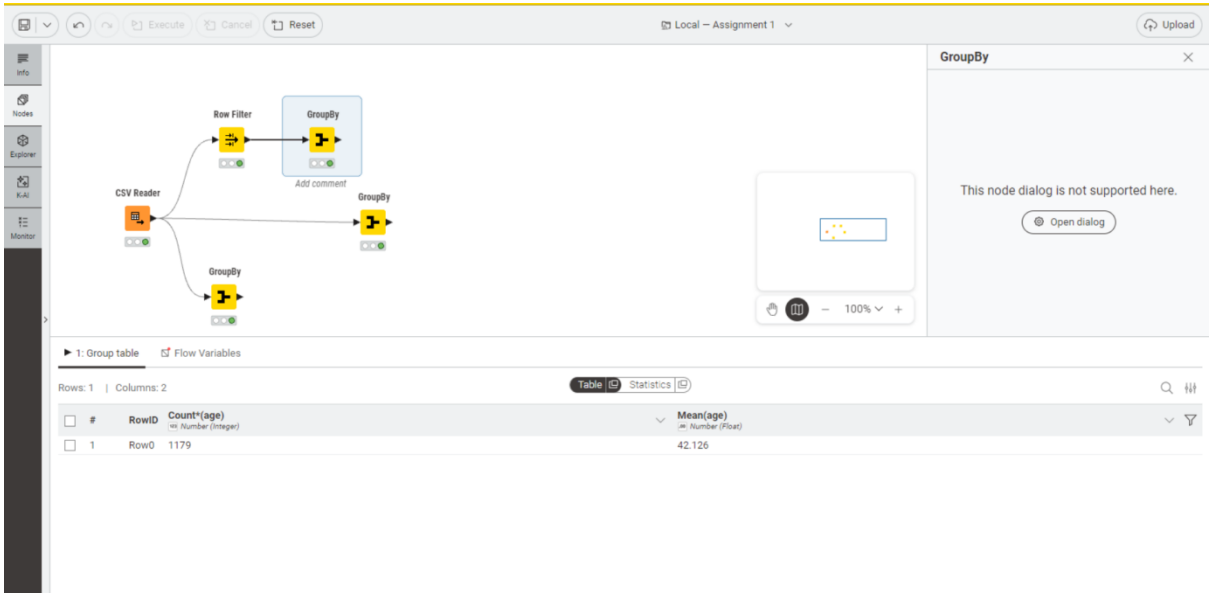
Step 2: Filter Row for Women with income >50K



Step 3: Use GroupBy node to calculate the count and average age of women with income >50K



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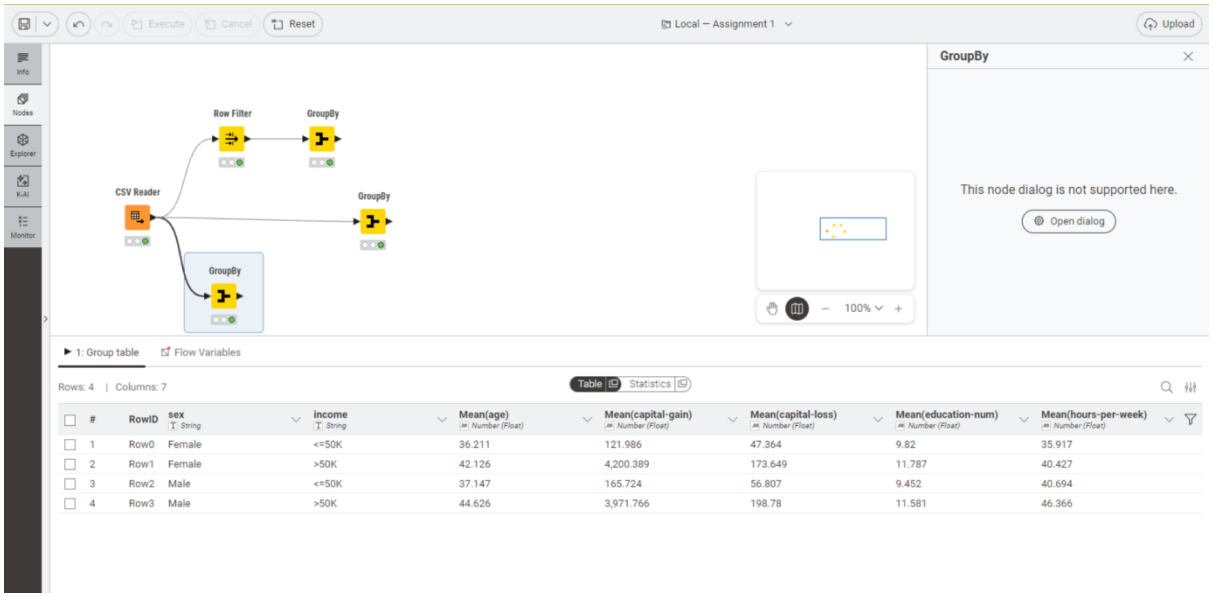
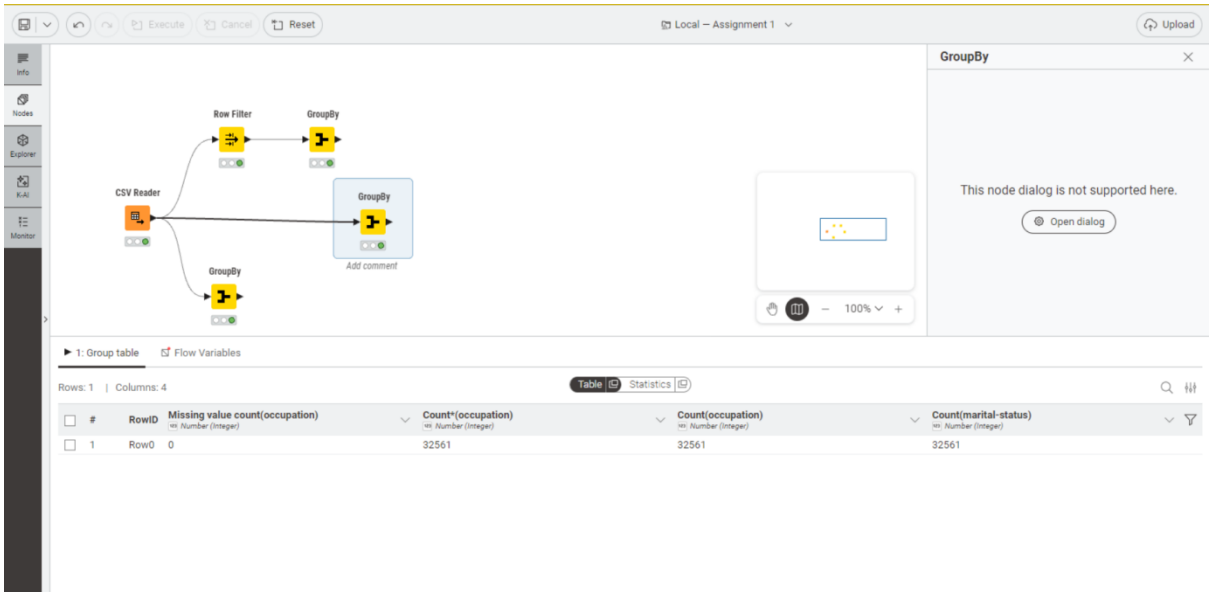
Step 4: Use GroupBy node to calculate the average of all numerical column for each of the 4-group defined by sex and income value



#	RowID	sex	income	Mean(age)	Mean(capital-gain)	Mean(capital-loss)	Mean(education-num)	Mean(hours-per-week)
1	Row0	Female	<=50K	36.211	121.986	47.364	9.82	35.917
2	Row1	Female	>50K	42.126	4,200.389	173.649	11.787	40.427
3	Row2	Male	<=50K	37.147	165.724	56.807	9.452	40.694
4	Row3	Male	>50K	44.626	3,971.766	198.78	11.581	46.366

Step 5: Use GroupBy node to calculate Missing value count for occupation, non-missing value count for occupation, no of rows in occupation column, no of rows in martial-status



#	RowID	Missing value count(occupation)	Count*(occupation)	Count(occupation)	Count(marital-status)
1	Row0	0	32561	32561	32561

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