BI Reporting

Assume that you work in a Business Intelligence team in a grocery chain (i.e., *süpermarket zinciri*).

Data:
- ProductHier.csv - Grocery items are organized by department and class.
- Calendar.csv - The company follows a fiscal calendar for reporting purposes. For example, 2nd week of January of Fiscal 2018 starts with Jan 7th (Sunday) and ends with Jan 13th (Saturday)

	A	B	C	D	E	
1	Fiscal Year	Fiscal Half	Fiscal Quarter	Fiscal Month	Week Ending Date	
2	2018	H1	Q1	Jan	1/6/2018	
3	2018	H1	Q1	Jan	1/13/2018	
4	2018	H1	Q1	Jan	1/20/2018	
5	2018	H1	Q1	Jan	1/27/2018	

- Sales.csv - Sales data is by item-date and consists of three components: units (*adet satış*), retail (*fiyatından satış*), and cost (*maliyetten satış*).

Questions:
1. One of the business managers requested the following from your team. You need to prepare an SQL procedure to return sales summaries of "top 10 selling items in each department" by average weekly retail sales in a given time window (which needs to be an argument of the function). Procedure should return data for all departments at the same time.
2. Change your function to return items with at least 3 weeks of selling during the given time window, where a selling week is defined as a week with unit sales >= 20.
3. Change your function to define top 10 selling items by department & class.
4. [BONUS] In an effort to better characterize consumers' purchasing behaviour, product hierarchy data is extended to include other fields such as Subclass, Season, Organic vs Not, etc. (i.e., more columns added). Can you change your function to return a report that defines top X by any subset of these metrics? (Tip: Use dynamic SQL)

Method:
There is no time constraint, just send your answer the day before the interview. No need to spend more than 2-3 hours on it. Use an SQL language you are familiar with. OK to upload data to your local machine and build the script, but you could also write your script without using data files. Please write one procedure to answer all questions and explain which part was altered for each step and why in comments.