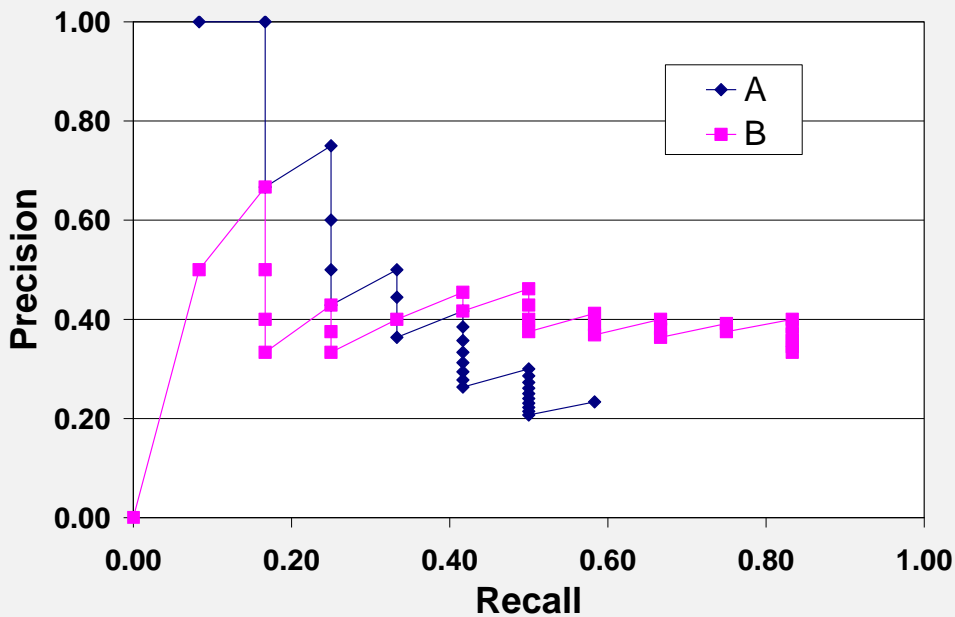## Task 1: Precision und Recall

Two search engines A and B perform a search on the same collection. Each engine returns the top 30 documents for a single query in ranked order by their relevance. The following table provides the ranking and denotes with a '+' if the document is relevant and with an empty cell if it is not relevant. The collection contains a total of 12 relevant documents for this single query.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
A	+	+		+				+				+								+										+
B		+	+				+			+	+		+					+			+				+		+			

a) Draw the precision-recall graph for both engines.

b) Which engine performs better and why?

The answer depends on how important the precision and recall are for the user. If the user prefers precision, engine A is better than B as it contains many relevant documents among the top results. If the user favors recall, engine B is better than A as it returns more relevant documents and keeps precision higher with growing recall. Finally, considering the system efficiency B outperforms A with 0.42 to 0.37.