

## EXAMPLE (Precision-Recall)

Let

$R_q$  denote the relevant documents to the query  $q$ . Let us assume, for example, that

$$R_q = \{d_3, d_5, d_9, d_{25}, d_{39}, d_{44}, d_{56}, d_{71}, d_{89}, d_{123}\},$$

$$\Delta = 10.$$

Let us assume that the retrieval method under measurement returns the following ranked hit list:

- 1.  $d_{123}$
- 2.  $d_{84}$
- 3.  $d_{56}$
- 4.  $d_6$
- 5.  $d_8$
- 6.  $d_9$
- 7.  $d_{511}$
- 8.  $d_{129}$

❖ The document  $d_{123}$  is relevant. This means that  $1/10^{\text{th}}$  of the documents of  $R_q$  have been retrieved (the recall level is  $1/10$ ).

and so  $\pi=1, \rho = 0.1$

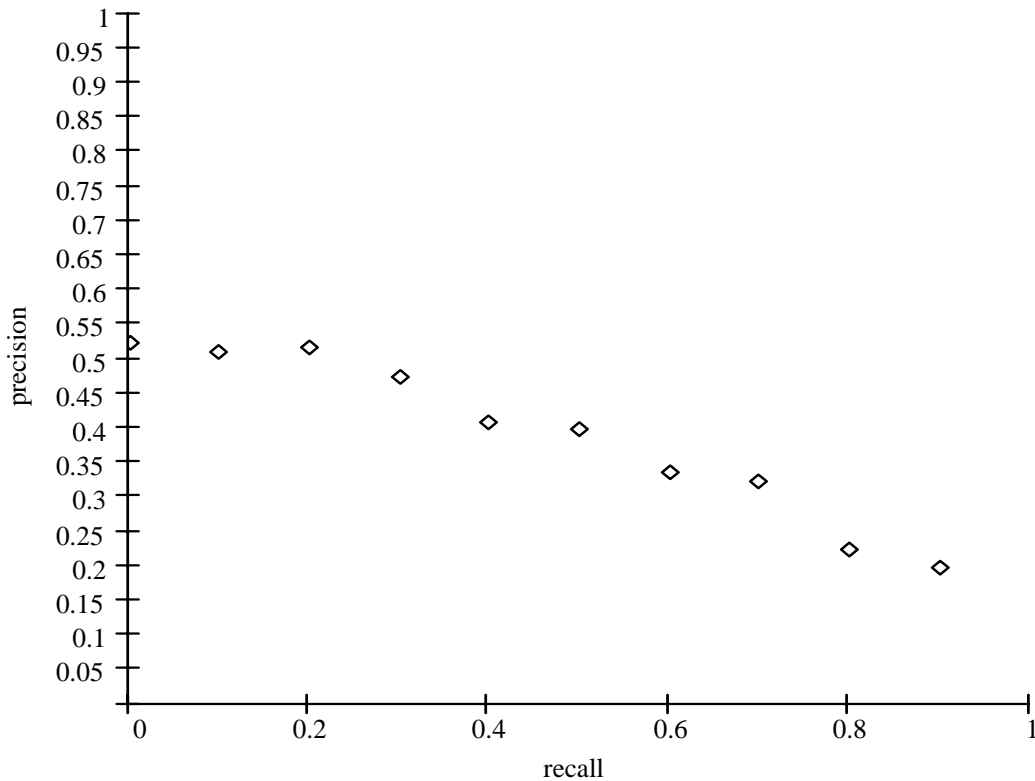
❖ The third element of the hit list is  $d_{56}$  which is also relevant.

Hence,  $\pi=2/3 = 0.66, \rho = 2/10 = 0.2$

❖ The sixth element of the hit list is  $d_9$  which is also relevant.

Hence,  $\pi=3/6 = 0.5, \rho = 3/10 = 0.3$

## EXAMPLE (MAP)



1. The average of the values  $P(r_j)$  is called **MAP (Mean Average Precision)**. **0.385**

2. MAP can also be computed just at the recall values 0.3, 0.6, and 0.9. **0.35**

$\rho$	<b>0.1</b>	<b>0.2</b>	<b>0.3</b>	<b>0.4</b>	<b>0.5</b>	<b>0.6</b>	<b>0.7</b>	<b>0.8</b>	<b>0.9</b>
$\pi$	<b>0.52</b>	<b>0.53</b>	<b>0.5</b>	<b>0.43</b>	<b>0.4</b>	<b>0.35</b>	<b>0.32</b>	<b>0.22</b>	<b>0.2</b>

## EXAMPLE (MLS Method)

Query	No.of hits	Relevant hits	Irrelevant hits	$\pi$
1.	16	1-4	5-16	0.525
2.	18	-	1-18	0
3.	27	1-6	7-27	0.716
4.	16	1-2	3-16	0.284
5.	18	1-2	3-18	0.284
6.	25	1-10	11-20	1
7.	33	1-11	12-30	1
8.	20	1-10	11-20	1
9.	20	0	1-20	0
10.	28	1-12	13-28	1
<b>Average</b>				<b>0.58</b>

For the first 10-precision, the weights are:

1. For group 1 (the first two hits): 20.
2. For group 2 (the next three hits): 17.
3. For group 3 (the rest of five hits): 10.

$$\frac{r_{\_hit_{1.-2.hit}} \times 20 + r_{\_hit_{3.-5.hit}} \times 17 + r_{\_hit_{6.-10.hit}} \times 10}{141 - ((10 - no - hits_{1.-10.link}) \times 10)}$$

## EXAMPLE (RP Method)

Kereső-kérdés sorsz.	Keresőkérdés	I <sup>2</sup> RMeta válaszainak rangsora	Keresőmotor	I <sup>2</sup> RMeta válaszáinak keresőmotorbeli rangsor
1	Information Retrieval	1	Altavista	6
		2	Altavista	1
		3	Google	4
		4	Altavista	4
2	Porter's Algorithm	1	Google	3
		2	Altavista	6
		3	Google	7
		4	WebCrawler	4
		5	Northernlight	2
3	Regular Expression Tutorial	1	Google	1
		2	Altavista	1
		3	Webcrawler	2
4	Perl Language Tutorial	1	Northernlight	2
		2	Google	6
		3	Webcrawler	12
		4	Webcrawler	10
5	Siemens Mobile Phone C35i	1	Google	1
		2	Webcrawler	3
		3	Google	4
		4	Altavista	2
6	Nokia Mobile Phone 5110 3210	1	Northernlight	3
		2	Northernlight	7
		3	Northernlight	2
7	Free SMS Server	1	Google	2
		2	WebCrawler	5
		3	Altavista	8
		4	Google	1
		5	Northernlight	3
8	Search Engines	1	Google	9
		2	Google	3
		3	Google	2
9	Spider Based Search Engines	1	Google	5
		2	Google	8
		3	Google	7
		4	Webcrawler	21
		5	Webcrawler	4

## Keresőkérdésenkénti relatív pontosság

Kereső- kérdés sorszáma	A metakereső által visszadott válaszok száma	Ebből hány szerepel az első tíz helyek egyikén	Relatív Pontosság
	<i>V</i>	<i>T</i>	<i>T/V</i>
1	4	4	1
2	5	5	1
3	3	3	1
4	4	3	0,75
5	4	4	1
6	3	3	1
7	5	5	1
8	3	3	1
9	5	4	0,8
<b>Átlagos relatív pontosság</b>			<b>0,95</b>