

## LAMPIRAN 1 KUERI

### 1.1 Kueri Satu Kata

```
<query>
  <number>1</number>
  <text> jaringan </text>
</query>

<query>
  <number>2</number>
  <text> jawa </text>
</query>

<query>
  <number>3</number>
  <text> teknologi </text>
</query>

<query>
  <number>4</number>
  <text> biaya </text>
</query>

<query>
  <number>5</number>
  <text> informasi </text>
</query>

<query>
  <number>6</number>
  <text> pendidikan </text>
</query>

<query>
  <number>7</number>
  <text> keamanan </text>
</query>

<query>
  <number>8</number>
  <text> ponsel </text>
</query>

<query>
  <number>9</number>
  <text> dana </text>
</query>

<query>
  <number>10</number>
  <text> mahasiswa </text>
</query>
```

```
<query>  
<number>11</number>  
<text> pemerintah </text>  
</query>
```

```
<query>  
<number>12</number>  
<text> perusahaan </text>  
</query>
```

```
<query>  
<number>13</number>  
<text> sekolah </text>  
</query>
```

```
<query>  
<number>14</number>  
<text> wanita </text>  
</query>
```

```
<query>  
<number>15</number>  
<text> daerah </text>  
</query>
```

```
<query>  
<number>16</number>  
<text> jaminan </text>  
</query>
```

```
<query>  
<number>17</number>  
<text> pengawas </text>  
</query>
```

```
<query>  
<number>18</number>  
<text> oktober </text>  
</query>
```

```
<query>  
<number>19</number>  
<text> koma </text>  
</query>
```

```
<query>  
<number>20</number>  
<text> januari </text>  
</query>
```

```
<query>  
<number>21</number>  
<text> panitia </text>  
</query>
```

```
<query>  
<number>22</number>
```

```
<text> impor </text>
</query>
```

```
<query>
  <number>23</number>
  <text> izin </text>
</query>
```

```
<query>
  <number>24</number>
  <text> media </text>
</query>
```

## 1.2 Kueri Frase

```
<query>
  <number>1</number>
  <text> hari raya </text>
</query>
```

```
<query>
  <number>2</number>
  <text> jawa tengah </text>
</query>
```

```
<query>
  <number>3</number>
  <text> teknologi komunikasi </text>
</query>
```

```
<query>
  <number>4</number>
  <text> jaringan internet </text>
</query>
```

```
<query>
  <number>5</number>
  <text> biaya pendidikan </text>
</query>
```

```
<query>
  <number>6</number>
  <text> lalu lintas </text>
</query>
```

```
<query>
  <number>7</number>
  <text> sistem informasi </text>
</query>
```

```
<query>
  <number>8</number>
  <text> harga minyak </text>
</query>
```

```
<query>
  <number>9</number>
  <text> aplikasi komputer</text>
```

</query>

<query>  
<number>10</number>  
<text> Bandar lampung </text>  
</query>

<query>  
<number>11</number>  
<text> Sulawesi tengah </text>  
</query>

<query>  
<number>12</number>  
<text> miliar rupiah </text>  
</query>

<query>  
<number>13</number>  
<text> izin pemerintah </text>  
</query>

<query>  
<number>14</number>  
<text> pengawas persaingan </text>  
</query>

<query>  
<number>15</number>  
<text> pemerintah daerah </text>  
</query>

<query>  
<number>16</number>  
<text> usaha kecil </text>  
</query>

<query>  
<number>17</number>  
<text> asia pasifik </text>  
</query>

<query>  
<number>18</number>  
<text> krisis ekonomi </text>  
</query>

<query>  
<number>19</number>  
<text> wakil presiden </text>  
</query>

<query>  
<number>20</number>  
<text> jalan raya </text>  
</query>

<query>

```
<number>21</number>  
<text> pendidikan nasional </text>  
</query>
```

```
<query>  
<number>22</number>  
<text> media televisi </text>  
</query>
```

```
<query>  
<number>23</number>  
<text> sekolah negeri </text>  
</query>
```

```
<query>  
<number>24</number>  
<text> rumah sakit </text>  
</query>
```

### 1.3 Kueri kalimat

```
<query>  
<number>1</number>  
<text> kenaikan harga bahan bakar minyak </text>  
</query>
```

```
<query>  
<number>2</number>  
<text> peningkatan ekspor migas indonesia </text>  
</query>
```

```
<query>  
<number>3</number>  
<text> perubahan anggaran pendidikan nasional </text>  
</query>
```

```
<query>  
<number>4</number>  
<text> pemanfaatan teknologi informasi pada kehidupan masyarakat </text>  
</query>
```

```
<query>  
<number>5</number>  
<text> peningkatan jumlah pelaku kejahatan </text>  
</query>
```

```
<query>  
<number>6</number>  
<text> faktor penyebab krisis ekonomi </text>  
</query>
```

```
<query>  
<number>7</number>  
<text> pertumbuhan jumlah pengguna ponsel </text>  
</query>
```

```
<query>  
<number>8</number>
```

<text> perkembangan teknologi wireless di indonesia </text>  
</query>

<query>  
<number>9</number>  
<text> mutu pendidikan sekolah negeri indonesia </text>  
</query>

<query>  
<number>10</number>  
<text> iklim investasi di dalam negeri </text>  
</query>

<query>  
<number>11</number>  
<text> penyebab utama maraknya penggunaan sms </text>  
</query>

<query>  
<number>12</number>  
<text> pengaruh maraknya penggunaan sms </text>  
</query>

<query>  
<number>13</number>  
<text> persaingan usaha operator telepon </text>  
</query>

<query>  
<number>14</number>  
<text> pembangunan infrastruktur teknologi informasi </text>  
</query>

<query>  
<number>15</number>  
<text> layanan jasa operator cdma </text>  
</query>

<query>  
<number>16</number>  
<text> peraturan pemerintah tentang tarif telepon </text>  
</query>

<query>  
<number>17</number>  
<text> pangsa pasar perusahaan ponsel </text>  
</query>

<query>  
<number>18</number>  
<text> pergerakan harga indeks dunia </text>  
</query>

<query>  
<number>19</number>  
<text> penggunaan sistem operasi pada ponsel </text>  
</query>

```
<query>
  <number>20</number>
  <text> aktivitas impor beras indonesia </text>
</query>
```

```
<query>
  <number>21</number>
  <text> penggunaan teknologi foto digital </text>
</query>
```

```
<query>
  <number>22</number>
  <text> wimax sebagai teknologi nirkabel </text>
</query>
```

```
<query>
  <number>23</number>
  <text> kecepatan akses data pada wimax </text>
</query>
```

```
<query>
  <number>24</number>
  <text> pemanfaatan teknologi triji oleh masyarakat </text>
</query>
```

#### 1.4 Kueri Satu Kata (Bentuk Pelafalan)

```
<query>
  <number>1</number>
  <text>j a r i n g a n </text>
</query>
```

```
<query>
  <number>2</number>
  <text>j a w a </text>
</query>
```

```
<query>
  <number>3</number>
  <text>t e k n o l o g i </text>
</query>
```

```
<query>
  <number>4</number>
  <text>b i y a y a </text>
</query>
```

```
<query>
  <number>5</number>
  <text>i n f o r m a s i </text>
</query>
```

```
<query>
```

<number>6</number>  
<text>p a x n d i d i k a n </text>

</query>

<query>  
<number>7</number>  
<text>k a x a m a n a n </text>

</query>

<query>  
<number>8</number>  
<text>p o n s e l </text>

</query>

<query>  
<number>9</number>  
<text>d a n a </text>

</query>

<query>  
<number>10</number>  
<text>m a h a s i s w a </text>

</query>

<query>  
<number>11</number>  
<text>p a x m a x r i n t a h </text>

</query>

<query>  
<number>12</number>  
<text>p a x r u s a h a a n </text>

</query>

<query>  
<number>13</number>  
<text>s a x k o l a h </text>

</query>

<query>  
<number>14</number>  
<text>w a n i t a </text>

</query>

<query>  
<number>15</number>  
<text>d a e r a h </text>

</query>



```
<query>
  <number>16</number>
<text>j a m i n a n </text>
```

```
</query>
```

```
<query>
  <number>17</number>
<text>p a x n g a w a s </text>
```

```
</query>
```

```
<query>
  <number>18</number>
<text>o k t o b a x r </text>
```

```
</query>
```

```
<query>
  <number>19</number>
<text>k o m a </text>
```

```
</query>
```

```
<query>
  <number>20</number>
<text>j a n u w a r i </text>
```

```
</query>
```

```
<query>
  <number>21</number>
<text>p a n i t i y a </text>
```

```
</query>
```

```
<query>
  <number>22</number>
<text>i m p o r </text>
```

```
</query>
```

```
<query>
  <number>23</number>
<text>i z i n </text>
```

```
</query>
```

```
<query>
  <number>24</number>
<text>m e d i y a </text>
```

```
</query>
```

## 1.5 Kueri Frase (Bentuk Pelafalan)

```
<query>
```

```
<number>1</number>
<text>h a r i r a y a </text>
</query>

<query>
  <number>2</number>
  <text>j a w a t a x n g a h </text>
</query>

<query>
  <number>3</number>
  <text>t e k n o l o g i k o m u n i k a s i </text>
</query>

<query>
  <number>4</number>
  <text>j a r i n g a n i n t a r n e t </text>
</query>

<query>
  <number>5</number>
  <text>b i y a y a p a x n d i d i k a n </text>
</query>

<query>
  <number>6</number>
  <text>l a l u l i n t a s </text>
</query>

<query>
  <number>7</number>
  <text>s i s t a x m i n f o r m a s i </text>
</query>

<query>
  <number>8</number>
  <text>h a r g a m i n y a k </text>
</query>

<query>
  <number>9</number>
  <text>a p l i k a s i k o m p u t a x r </text>
</query>

<query>
  <number>10</number>
  <text>b a n d a r l a m p u n g </text>
</query>

<query>
  <number>11</number>
  <text>s u l a w a x s i t a x n g a h </text>
</query>

<query>
  <number>12</number>
  <text>m i l i y a r r u p i y a h </text>
</query>
```

```
<query>
  <number>13</number>
<text>i z i n p a x m a x r i n t a h </text>
</query>
```

```
<query>
  <number>14</number>
<text>p a x n g a w a s p a x r s a y i n g a n </text>
</query>
```

```
<query>
  <number>15</number>
<text>p a x m a x r i n t a h d a e r a h </text>
</query>
```

```
<query>
  <number>16</number>
<text>u s a h a k a x c i l </text>
</query>
```

```
<query>
  <number>17</number>
<text>a s i y a p a s i f i k </text>
</query>
```

```
<query>
  <number>18</number>
<text>k r i s i s e k o n o m i </text>
</query>
```

```
<query>
  <number>19</number>
<text>w a k i l p r e s i d e n </text>
</query>
```

```
<query>
  <number>20</number>
<text>j a l a n r a y a </text>
</query>
```

```
<query>
  <number>21</number>
<text>p a x n d i d i k a n n a s y o n a l </text>
</query>
```

```
<query>
  <number>22</number>
<text>m e d i a t a x l a x f i s i </text>
</query>
```

```
<query>
  <number>23</number>
<text>s a x k o l a h n a x g a x r i </text>
</query>
```

```
<query>
  <number>24</number>
```

<text>r u m a h s a k i t</text>  
</query>

## 1.6 Kueri kalimat (Bentuk Pelafalan)

<query>  
<number>1</number>  
<text>k a x n a y i k a n h a r g a b a h a n b a k a r m i n y a k </text>  
</query>

<query>  
<number>2</number>  
<text>p a x n i n g k a t a n e k s p o r m i g a s i n d o n e s i a </text>  
</query>

<query>  
<number>3</number>  
<text>p a x r u b a h a n a n g g a r a n p a x n d i d i k a n n a s y o n a l </text>  
</query>

<query>  
<number>4</number>  
<text>p a x m a n f a a t a n t e k n o l o g i i n f o r m a s i p a d a k a x h i d u p a n m a s y a r a k a t </text>  
</query>

<query>  
<number>5</number>  
<text>p a x n i n g k a t a n j u m l a h p a x l a k u k a x j a h a t a n </text>  
</query>

<query>  
<number>6</number>  
<text>f a k t o r p a x n y a x b a p k r i s i s e k o n o m i </text>  
</query>

<query>  
<number>7</number>  
<text>p a x r t u m b u h a n j u m l a h p a x n g g u n a p o n s e l </text>  
</query>

<query>  
<number>8</number>  
<text>p a x r k a m b a n g a n t e k n o l o g i w a y r l a x s d i i n d o n e s i a </text>  
</query>

<query>  
<number>9</number>  
<text>m u t u p a x n d i d i k a n s a x k o l a h n a x g a x r i i n d o n e s i a </text>

</query>

<query>

<number>10</number>

<text>iklim infestasi di dalam nax gax ri </text>

</query>

<query>

<number>11</number>

<text>p ax ny ax b a p u t a m a p ax ng g u n a a n e s e m e s </text>

</query>

<query>

<number>12</number>

<text>p ax ng a r u h m a r a k n y a p ax ng g u n a a n e s e m e s </text>

</query>

<query>

<number>13</number>

<text>p ax r s a y i n g a n u s a h a o p ax r a t o r t a x l f o n </text>

</query>

<query>

<number>14</number>

<text>p a x m b a n g u n a n i n f r a s t r u k t u r t e k n o l o g i i n f o r m a s i </text>

</query>

<query>

<number>15</number>

<text>l a y a n a n j a s a o p ax r a t o r s i d i e m a </text>

</query>

<query>

<number>16</number>

<text>p ax r a t u r a n p ax m ax r i n t a h t a x n t a n g t a r i f t a x l f o n </text>

</query>

<query>

<number>17</number>

<text>p a n g s a p a s a r p ax r u s a h a a n p o n s e l </text>

</query>

<query>

<number>18</number>

<text>p a x g a x r a k a n h a r g a i n d a x k s d u n i y a </text>

</query>

<query>

<number>19</number>

<text>paxnggunaan sistaxm opaxrasi pada ponsel </text>

</query>

<query>

<number>20</number>

<text>aktifitas impor baxras indonesiya </text>

</query>

<query>

<number>21</number>

<text>paxnggunaan teknologi foto digital </text>

</query>

<query>

<number>22</number>

<text>wim sax bagay teknologi nirkabaxl </text>

</query>

<query>

<number>23</number>

<text>kaxcaxpatan akses data pada wima </text>

</query>

<query>

<number>24</number>

<text>pax manfaat teknologi triji oleh masyarakat </text>

</query>

## LAMPIRAN 2 HASIL EVALUASI

Rel = jumlah dokumen relevan

Rel-ret = jumlah dokumen relevan diperoleh

Map = *Mean Average Precision*

Ap = *Average precision*

### 2.1 Hasil Evaluasi *1-best Output*

Rel: 1174                      rel-ret: 774                      map: 0.3716

Kueri	Kueri satu kata			Kueri frase			Kueri kalimat		
	Rel	Rel-ret	ap	Rel	Rel-ret	ap	Rel	Rel-ret	ap
1	63	50	0.6452	3	2	0.6667	2	2	0.8333
2	15	12	0.6156	4	2	0.2917	4	4	0.6607
3	101	69	0.6190	21	18	0.5183	18	17	0.3092
4	36	9	0.2029	9	6	0.4295	14	10	0.29
5	35	31	0.6548	6	5	0.35	3	2	0.0695
6	42	34	0.5345	3	1	0.3333	15	9	0.1757
7	6	4	0.667	8	5	0.1102	3	1	0.0108
8	96	61	0.5802	3	2	0.6667	7	6	0.3412
9	40	40	0.2322	22	18	0.2326	6	5	0.2284
10	9	6	0.4976	4	3	0.75	8	7	0.2289
11	68	51	0.5493	5	2	0.0383	6	3	0.1379
12	52	22	0.2399	19	16	0.0832	9	3	0.1963
13	27	14	0.4142	6	3	0.1775	13	10	0.3905
14	7	4	0.2211	7	3	0.2993	13	10	0.3548
15	28	17	0.5058	11	9	0.3895	7	6	0.5574
16	6	5	0.2901	6	4	0.6667	6	4	0.1917
17	3	2	0.3889	6	1	0.1667	12	7	0.2981
18	26	19	0.5035	4	3	0.3252	6	0	0
19	33	17	0.2738	4	4	0.8056	11	11	0.5369
20	35	33	0.8057	4	1	0.25	12	8	0.5559
21	16	13	0.4637	9	8	0.5725	9	7	0.4295
22	16	9	0.3127	2	2	0.5714	12	5	0.2207
23	6	0	0	7	5	0.4173	3	2	0.0184
24	14	8	0.2784	13	2	0.0577	9	1	0.0012
all	780	509	Map = 0.4373	186	125	Map = 0.3843	208	140	Map = 0.2932

## 2.2 Hasil Evaluasi *N-Best Output*

Rel: 1174      rel-ret: 881      map: 0.3692

Kueri	Kueri satu kata			Kueri frase			Kueri kalimat		
	Rel	Rel-ret	ap	Rel	Rel-ret	ap	Rel	Rel-ret	ap
1	63	50	0.6774	3	3	0.1040	2	2	0.75
2	15	13	0.4923	4	3	0.2771	4	4	0.3907
3	101	76	0.6798	21	17	0.5336	18	17	0.3862
4	36	14	0.3617	9	6	0.2644	14	11	0.2009
5	35	32	0.5878	6	5	0.3982	3	3	0.2611
6	42	34	0.5225	3	2	0.6667	15	12	0.4553
7	6	5	0.5931	8	7	0.2753	3	2	0.0264
8	96	71	0.6320	3	2	0.4286	7	7	0.3259
9	40	29	0.3901	22	18	0.2880	6	5	0.1852
10	9	6	0.2694	4	3	0.75	8	7	0.1342
11	68	59	0.6186	5	2	0.0571	6	3	0.0213
12	52	33	0.3069	19	16	0.1563	9	6	0.3300
13	27	19	0.4756	6	6	0.0680	13	12	0.35
14	7	5	0.3435	7	5	0.3885	13	13	0.1693
15	28	18	0.4905	11	8	0.4173	7	7	0.5539
16	6	4	0.2447	6	4	0.5208	6	6	0.2615
17	3	3	0.6389	6	2	0.2	12	9	0.2933
18	26	20	0.4783	4	3	0.3137	6	0	0
19	33	23	0.3347	4	3	0.5536	11	11	0.6082
20	35	32	0.7428	4	2	0.0296	12	9	0.6288
21	16	12	0.4675	9	8	0.4824	9	8	0.3015
22	16	9	0.3094	2	2	0.1556	12	7	0.3749
23	6	4	0.2437	7	5	0.0978	3	3	0.8095
24	14	9	0.3251	13	4	0.0977	9	1	0.0159
all	780	580	Map = 0.4678	186	136	Map = 0.3135	208	165	Map = 0.3264

## 2.3 Hasil Evaluasi *N-Best Pronunciation Output*

Rel: 1174      rel-ret: 512      map: 0.0272

Kueri	Kueri satu kata			Kueri frase			Kueri kalimat		
	Rel	Rel-ret	ap	Rel	Rel-ret	ap	Rel	Rel-ret	ap
1	63	29	0.0367	3	2	0.0033	2	0	0
2	15	11	0.0849	4	1	0.0034	4	2	0.0027
3	101	62	0.1665	21	13	0.1181	18	15	0.0725
4	36	16	0.0177	9	1	0.0003	14	4	0.0411



5	35	28	0.1046	6	4	0.1167	3	0	0
6	42	25	0.07	3	2	0.0193	15	2	0.0005
7	6	1	0.0004	8	5	0.0241	3	2	0.023
8	96	43	0.0897	3	2	0.0039	7	6	0.1562
9	40	14	0.0116	22	6	0.0283	6	1	0.0003
10	9	6	0.0220	4	4	0.0365	8	4	0.0056
11	68	25	0.0234	5	0	0	6	3	0.0144
12	52	15	0.0141	19	3	0.0012	9	4	0.0123
13	27	7	0.0378	6	4	0.0130	13	7	0.0190
14	7	3	0.0386	7	7	0.0033	13	1	0.0013
15	28	15	0.0313	11	6	0.0211	7	3	0.0057
16	6	4	0.0067	6	4	0.0278	6	5	0.0637
17	3	2	0.0043	6	3	0.0281	12	7	0.0712
18	26	7	0.0048	4	0	0	6	1	0.0022
19	33	9	0.0202	4	4	0.0086	11	9	0.0699
20	35	10	0.0079	4	1	0.0008	12	0	0
21	16	3	0.0018	9	5	0.0439	9	5	0.0085
22	16	4	0.0016	2	2	0.0039	12	5	0.0622
23	6	4	0.0150	7	1	0.0009	3	3	0.0229
24	14	3	0.0044	13	3	0.0037	9	0	0
all	780	346	Map = 0.0340	186	77	Map = 0.0213	208	89	Map = 0.0264

#### 2.4 Hasil Evaluasi *Lattice posterior*

Rel: 1174      rel-ret: 774      map: 0.3386

Kueri	Kueri satu kata			Kueri frase			Kueri kalimat		
	Rel	Rel-ret	ap	Rel	Rel-ret	ap	Rel	Rel-ret	ap
1	63	52	0.74	3	3	0.9167	2	2	0.0370
2	15	13	0.1114	4	4	0.4335	4	4	0.0742
3	101	88	0.5388	21	19	0.8246	18	18	0.2163
4	36	20	0.0844	9	7	0.6603	14	14	0.0592
5	35	33	0.2002	6	5	0.5473	3	3	0.0337
6	42	39	0.1344	3	3	1	15	15	0.2876
7	6	6	0.0522	8	8	0.3806	3	3	0.0150
8	96	79	0.7280	3	2	0.4444	7	7	0.0164
9	40	33	0.5263	22	20	0.3527	6	6	0.0333
10	9	7	0.2807	4	4	1	8	8	0.0048
11	68	60	0.6112	5	3	0.0451	6	6	0.0275
12	52	38	0.5001	19	16	0.1313	9	9	0.2344
13	27	19	0.5805	6	6	0.2409	13	13	0.0157
14	7	5	0.4131	7	5	0.5181	13	13	0.0533
15	28	21	0.5780	11	9	0.2303	7	7	0.0280
16	6	4	0.2869	6	4	0.5917	6	6	0.1218
17	3	3	0.6389	6	5	0.5499	12	12	0.0621
18	26	22	0.4881	4	3	0.5441	6	6	0.0083
19	33	24	0.2429	4	4	1	11	11	0.0143

20	35	32	0.7694	4	3	0.0312	12	12	0.0990
21	16	12	0.4132	9	9	0.1375	9	9	0.0485
22	16	10	0.4632	2	2	1	12	12	0.1049
23	6	4	0.2869	7	7	0.4762	3	3	0.0031
24	14	10	0.5526	13	9	0.3599	9	9	0.0429
all	780	634	Map = 0.4301	186	160	Map =0.5173	208	208	Map = 0.0684

