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The following code works for relevance files for parks corpus
Queries are
national parks in california
fire in yosemite
history of the national park service
american bison range
things to do in zion national park

Ranked Retrieval results DEFAULT

For query 1 “National parks in california”
Throughput and Mean Response Time

```
Activities Terminal Dec 13 2:55:15 AM
fouzankhan@fouzankhan-VivoBook-S15-XS30UN: ~/Desktop/searchEngine/SEARCHENG-MILESTONE3

This is the Mean Response Time = 0.013720067342122395
The Throughput is 72.88593962872687
*****
Top 50 documents for query: national parks in california

The Average Precision 0.11269679154899232
Doc Title: California National Historic Trail: Photo Gallery, with Score: 0.818846886288358 is NON RELEVANT DOCUMENT
Doc Title: Big Bend National Park: How big is it?, with Score: 0.7214543844490164 is RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Exhibits, with Score: 0.7029483533554818 is RELEVANT DOCUMENT
Doc Title: Sequoia & Kings Canyon National Parks: At Sequoia National Park, with Score: 0.650343905959802 is NON RELEVANT DOCUMENT
Doc Title: Cabrillo National Monument: Camping, with Score: 0.633881852663417 is NON RELEVANT DOCUMENT
Doc Title: Channel Islands National Park: Fishing, with Score: 0.6263402838843505 is NON RELEVANT DOCUMENT
Doc Title: Sequoia & Kings Canyon National Parks: Online Resources, with Score: 0.6188286780242538 is NON RELEVANT DOCUMENT
Doc Title: Zion National Park: Park Statistics, with Score: 0.614839551097802 is NON RELEVANT DOCUMENT
Doc Title: Port Chicago Naval Magazine National Memorial: Eating & Sleeping, with Score: 0.606246514622275 is NON RELEVANT DOCUMENT
Doc Title: Death Valley National Park: Nearby Attractions, with Score: 0.601417375164536 is NON RELEVANT DOCUMENT
Doc Title: Mojave National Preserve: Amphibians, with Score: 0.598853936895493 is NON RELEVANT DOCUMENT
Doc Title: San Francisco Maritime National Historical Park: Curriculum Materials, with Score: 0.5708415942514757 is NON RELEVANT DOCUMENT
Doc Title: Whiskeytown National Recreation Area: Birds, with Score: 0.5785175811786524 is NON RELEVANT DOCUMENT
Doc Title: Lassen Volcanic National Park: Environmental Factors, with Score: 0.5724555098263533 is RELEVANT DOCUMENT
Doc Title: Sequoia & Kings Canyon National Parks: California Buckeye, with Score: 0.5655390066780825 is NON RELEVANT DOCUMENT
Doc Title: Point Reyes National Seashore: Natural Features & Ecosystems, with Score: 0.5430798775972958 is RELEVANT DOCUMENT
Doc Title: Santa Monica Mountains National Recreation Area: California Treefrog, with Score: 0.5354341622267498 is RELEVANT DOCUMENT
Doc Title: California National Historic Trail: New Santa Fe Cemetery, with Score: 0.5321635187637365 is RELEVANT DOCUMENT
Doc Title: Redwood National and State Parks: Weather, with Score: 0.5260477569996179 is NON RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Places To Go, with Score: 0.5242734103842454 is NON RELEVANT DOCUMENT
Doc Title: Juan Bautista de Anza National Historic Trail: Things To Do, with Score: 0.5226912244925288 is RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Newsletters, with Score: 0.518856875886703 is NON RELEVANT DOCUMENT
Doc Title: Golden Gate National Recreation Area: Elval War at Golden Gate, with Score: 0.5064792383864994 is RELEVANT DOCUMENT
Doc Title: Yosemite National Park: Employment in Local Communities, with Score: 0.505581959480383 is NON RELEVANT DOCUMENT
Doc Title: World War II Valor in the Pacific National Monument: History Services, with Score: 0.4964440891520534 is NON RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Support Your Park, with Score: 0.49168597115713666 is RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Maps, with Score: 0.4884632956994322 is RELEVANT DOCUMENT
Doc Title: Point Reyes National Seashore: Forests, with Score: 0.4824952363780486 is RELEVANT DOCUMENT
Doc Title: Pony Express National Historic Trail: Challenge Cost Share Program, with Score: 0.47229733677035885 is NON RELEVANT DOCUMENT
Doc Title: Zion National Park: California Condors, with Score: 0.469479993142541 is NON RELEVANT DOCUMENT
Doc Title: San Antonio Missions National Historical Park: Learn About the Park, with Score: 0.4690062954754813 is RELEVANT DOCUMENT
Doc Title: Whittman Mission National Historic Site: Park History thru 1988, with Score: 0.4684478290438039 is NON RELEVANT DOCUMENT
Doc Title: Santa Monica Mountains National Recreation Area: Teacher Workshops, with Score: 0.4681668114997435 is RELEVANT DOCUMENT
Doc Title: City of Rocks National Reserve: Publications, with Score: 0.4557087302808203 is NON RELEVANT DOCUMENT
Doc Title: Lassen Volcanic National Park: Volcanoes / Lava Flows, with Score: 0.45512267365922635 is RELEVANT DOCUMENT
Doc Title: Joshua Tree National Park: History & Culture, with Score: 0.4507176962780483 is NON RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Basic Information, with Score: 0.44268737405496317 is NON RELEVANT DOCUMENT
Doc Title: Santa Fe National Historic Trail: McCoy Park, with Score: 0.44255203671618 is NON RELEVANT DOCUMENT
Doc Title: Golden Gate National Recreation Area: Buffalo Soldiers in the Park, with Score: 0.4485981082767067 is NON RELEVANT DOCUMENT
Doc Title: Santa Monica Mountains National Recreation Area: Fire Cooperators, with Score: 0.43174291925994707 is RELEVANT DOCUMENT
Doc Title: Zion National Park: State of the Park, with Score: 0.43037613502558225 is NON RELEVANT DOCUMENT
Doc Title: Channel Islands National Park: Oceans, with Score: 0.42915028286739394 is RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Links & Resources, with Score: 0.42902565278834676 is RELEVANT DOCUMENT
Doc Title: Lassen Volcanic National Park: Mammals, with Score: 0.42736957190837683 is RELEVANT DOCUMENT
Doc Title: Golden Gate National Recreation Area: Restoration & Management, with Score: 0.4249034514611412 is RELEVANT DOCUMENT
Doc Title: Big Hole National Battlefield: Management, with Score: 0.42401788070804856 is NON RELEVANT DOCUMENT
Doc Title: Fort Union National Monument: Bookstore, with Score: 0.4238828242870733 is NON RELEVANT DOCUMENT
Doc Title: Fire Island National Seashore: Management, with Score: 0.4215466347646638 is NON RELEVANT DOCUMENT
Doc Title: Theodore Roosevelt National Park: Cooperating Association, with Score: 0.41810692172840276 is NON RELEVANT DOCUMENT
Doc Title: Channel Islands National Park: Giant Black Seabass, with Score: 0.41771852526181684 is NON RELEVANT DOCUMENT
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Average Precision for DEFAULT MODE

```
Do you want to see the curves?(y/n)n
The mean average precision is 0.28475631913211846
1.Boolean Mode
2.Ranked Mode
3.Precision-Recall Curves
>>>> A7
```

Ranked Retrieval results OKAPI

For query 1 “National parks in california”

Throughput and Mean Response Time

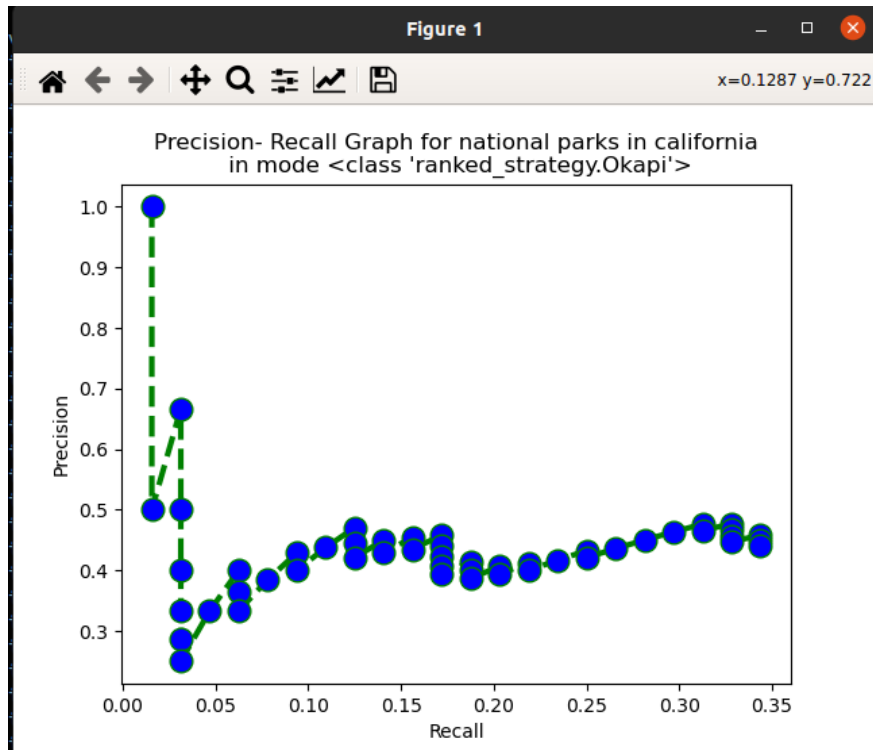
Average Precision

```
Activities Terminal Dec 13 2:57:25 AM
fouzankhan@fouzankhan-VivoBook-S15-XS30UN: ~/Desktop/searchEngine/SEARCHENG-MILESTONES

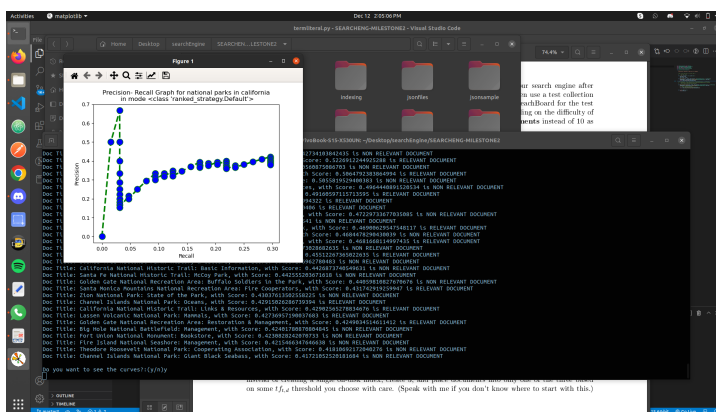
This is the Mean Response Time = 0.026419385274251302
The Throughput is 37.850994246055144
*****
Top 50 documents for query: national parks in california

The Average Precision 0.16134639611921497
Doc Title: Santa Monica Mountains National Recreation Area: California Treefrog, with Score: 2.280366099938527 is RELEVANT DOCUMENT
Doc Title: Sequoia & Kings Canyon National Parks: California Buckeye, with Score: 2.179702333990264 is NON RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Links & Resources, with Score: 2.1663633989865696 is RELEVANT DOCUMENT
Doc Title: Zion National Park: California Condors, with Score: 2.146038555833524 is NON RELEVANT DOCUMENT
Doc Title: Cabrillo National Monument: Camping, with Score: 2.143079101752843 is NON RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Basic Information, with Score: 2.142978126497766 is NON RELEVANT DOCUMENT
Doc Title: San Francisco Maritime National Historical Park: Curriculum Materials, with Score: 2.119952327236688 is NON RELEVANT DOCUMENT
Doc Title: Redwood National and State Parks: Weather, with Score: 2.1173840853178194 is NON RELEVANT DOCUMENT
Doc Title: Point Reyes National Seashore: Natural Features & Ecosystems, with Score: 2.09924794464768 is RELEVANT DOCUMENT
Doc Title: Golden Gate National Recreation Area: Civil War at Golden Gate, with Score: 2.098610631122875 is RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Newsletters, with Score: 2.0951745855047967 is NON RELEVANT DOCUMENT
Doc Title: Yosemite National Park: Threatened Species, with Score: 2.090372537056174 is NON RELEVANT DOCUMENT
Doc Title: Lassen Volcanic National Park: Volcanoes / Lava Flows, with Score: 2.0840857431104067 is RELEVANT DOCUMENT
Doc Title: Juan Bautista de Anza National Historic Trail: Things To Do, with Score: 2.083716687202046 is RELEVANT DOCUMENT
Doc Title: John Muir National Historic Site: Nature, with Score: 2.0832383994209867 is NON RELEVANT DOCUMENT
Doc Title: Big Bend National Park: How big is it?, with Score: 2.082763276928999 is RELEVANT DOCUMENT
Doc Title: Santa Monica Mountains National Recreation Area: Hunting in the National Recreation Area, with Score: 2.0806907397259744 is RELEVANT DOCUMENT
Doc Title: Sequoia & Kings Canyon National Parks: At Sequoia National Park, with Score: 2.0802566192844996 is NON RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Places To Go, with Score: 2.07680290949082 is NON RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Maps, with Score: 2.072399850832084 is RELEVANT DOCUMENT
Doc Title: Redwood National and State Parks: Basic Information, with Score: 2.065432208500686 is NON RELEVANT DOCUMENT
Doc Title: Point Reyes National Seashore: Forests, with Score: 2.0584204670497526 is RELEVANT DOCUMENT
Doc Title: Sequoia & Kings Canyon National Parks: Online Resources, with Score: 2.0564135772564670 is NON RELEVANT DOCUMENT
Doc Title: Santa Monica Mountains National Recreation Area: Teacher Workshops, with Score: 2.055770708993617 is RELEVANT DOCUMENT
Doc Title: Golden Gate National Recreation Area: Ohlone and Coast Miwok, with Score: 2.054311101015433 is NON RELEVANT DOCUMENT
Doc Title: Mojave National Preserve: Amphibians, with Score: 2.054106087302644 is NON RELEVANT DOCUMENT
Doc Title: Channel Islands National Park: Fishing, with Score: 2.0534305386066285 is NON RELEVANT DOCUMENT
Doc Title: Channel Islands National Park: 2008 Archived Lecture Videos, with Score: 2.05055817009264 is NON RELEVANT DOCUMENT
Doc Title: Channel Islands National Park: Oceans, with Score: 2.0490025309324805 is RELEVANT DOCUMENT
Doc Title: Port Chicago Naval Magazine National Memorial: Eating & Sleeping, with Score: 2.046259647610731 is NON RELEVANT DOCUMENT
Doc Title: Death Valley National Park: Nearby Attractions, with Score: 2.0442692364327978 is NON RELEVANT DOCUMENT
Doc Title: Lassen Volcanic National Park: Environmental Factors, with Score: 2.043319318100811 is RELEVANT DOCUMENT
Doc Title: Yosemite National Park: Hydrology References, with Score: 2.0416846476303574 is NON RELEVANT DOCUMENT
Doc Title: Pinnacles National Park: Condors, with Score: 2.0143974470191744 is RELEVANT DOCUMENT
Doc Title: Point Reyes National Seashore: Prairies and Grasslands, with Score: 2.027139099759271 is NON RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Support Your Park, with Score: 2.0251318281542092 is RELEVANT DOCUMENT
Doc Title: Santa Monica Mountains National Recreation Area: Baja California Treefrog, with Score: 2.025012386174061 is RELEVANT DOCUMENT
Doc Title: Point Reyes National Seashore: Ranger-Led Education Programs, with Score: 2.0240233852883504 is NON RELEVANT DOCUMENT
Doc Title: Golden Gate National Recreation Area: Restoration & Management, with Score: 2.0226524545130151 is RELEVANT DOCUMENT
Doc Title: Lassen Volcanic National Park: Mammals, with Score: 2.0188916192300654 is RELEVANT DOCUMENT
Doc Title: California National Historic Trail: New Santa Fe Cemetery, with Score: 2.009947585016240 is RELEVANT DOCUMENT
Doc Title: California National Historic Trail: Exhibits, with Score: 2.009313156125034 is RELEVANT DOCUMENT
Doc Title: Point Reyes National Seashore: Amphibians, with Score: 2.0028032200660804 is NON RELEVANT DOCUMENT
Doc Title: Yosemite National Park: Rockfall, with Score: 2.002238890384532 is RELEVANT DOCUMENT
Doc Title: Bryce Canyon National Park: California Condor, with Score: 1.999376156164577 is NON RELEVANT DOCUMENT
Doc Title: Channel Islands National Park: Lichens, with Score: 1.99647060696741042 is NON RELEVANT DOCUMENT
Doc Title: Santa Fe National Historic Trail: McCoy Park, with Score: 1.9917537743190814 is NON RELEVANT DOCUMENT
Doc Title: Santa Monica Mountains National Recreation Area: Fire Cooperators, with Score: 1.9904749367572734 is RELEVANT DOCUMENT
Doc Title: Santa Monica Mountains National Recreation Area: Mediterranean Ecosystem, with Score: 1.9831897245197785 is NON RELEVANT DOCUMENT
Doc Title: World War II Valor in the Pacific National Monument: History Services, with Score: 1.982731531025732 is NON RELEVANT DOCUMENT
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FOR OKAPI



FOR VOCAB ELIMINATION
DEFAULT
Values for throughput, mrt



MAP	Throughput	MRT
0.203	63.109	0.015
0.181	113.715	0.00879

0.258	132.79	0.0075
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