

Lab: Database Indexing

1. Read into SQLite the campaign data that can be found on Canvas under Dataset module. Use file **campaign-ca-2016.sql**. (`.read campaign-ca-2016.sql`)

2. Run this query

```
Select contbr_st, contbr_zip from campaign where contbr_nm = "DAYTON, ROBERT";
```

3. Run the query again, but this time put “**explain query plan**” at the front of the query. Look at the output.

4. Create an index on the contributor name field:

```
create index i1 on campaign(contbr_nm);
```

5. Run the query again, but this time with “**explain query plan**” at the beginning. Do you see a difference between what you got in part 3.

NOTE:

Here is an example of a query that is very slow without an index. It is based on the **campaign-ca-normal.sql** data: (`.read campaign-ca-normal.sql`)

```
select zip, count(date)
from contributor
  natural left outer join
  (select * from contribution where amount > 2000)
group by zip;
```

BE PATIENT! Query will take around 5 minutes to finish.

An index that greatly speeds up evaluation of this query:

```
create index zip_index on contributor(zip);
```