

Homework # 11

MATH 110

In this homework we will use nytimes API and bash scripting. Before you start the homework, go to the nytimes developer site,

<https://developer.nytimes.com/>,

register for an account and generate API keys as described in the lecture. I went over the article and archive APIs in the lecture. To understand the movie API, read through the documentation available through the developer website above. Then do the following.

1. Code a function,

```
movie_info(query, start_date="", end_date="", key=X).
```

`query` is a search string used to scan the title. For example, if `query` were equal to "big", the function would return movies that have "big" in the title. `start_date` and `end_date` specify a window of time, the function should return only movies with opening dates within that window. The function should return a data.frame containing the **movie names, opening dates, summary of the movie, and url of the review** in the nytimes. An important issue is that a call to the nytimes API only returns 20 movies at a time. To return more than 20 movies, you must call the API again, with the addition of, for example, `offset=20` to the url, which would pick up at the 20th movie and return movies 21 – 40. Your function must include the option of leaving out the query or date restriction by passing `query=""` and similarly for `start_date` and `end_date`. As noted, `start_date` and `end_date` should default to "". Finally, `key` is the API key and you should provide your key value instead of the current `X`.

2. Code a function, `show_review(mi, i)`. `mi` is the data.frame returned by your `movie_info`. The function should open google chrome (or another browser if you prefer) to the url of the nytimes review for the `i`th movie in the data.frame. Do this through a systems call to bash.
3. Code a function, `say_summary(mi, i)`. The function should call the `say` program I discussed in the lecture and have it read

the summary of the i th movie. Do this through a systems call to bash.

4. Use your `movie_info` function to determine how many movies were reviewed by the nytimes with an opening date in July between the years 1980 and 1990. Of those movies, find the movie with the longest summary, use your `say_summary` function to read the review, and open the review in your browser using `show_review`.