Describe how the `select_related()` method differs from `prefetch_related()`?
The method `select_related` is executed on database engine(mysql, oracle, postgres), it executes one Query with Joins and its only execute with OneToOne relationship,with the results Django ORM only mapping SQL row in Python object.
The method `prefetch_related` is used with OneToMany and ManyToMany relationships, its create several join queries on database engine and Django ORM is responsable to join the results.

You have written a view function that processes the URL `/new_post/`. It responds to the GET request with a page with a form, and to the POST request it creates a new publication from the form data, after which it redirects the user to the main page. Describe the tests that you would write for this view function.

1) Create a get request
    a) validate if response contains a form
    b) Validate 200 status response
    c) Validate the template will be loaded
2) Create a POST requests
    a) validate de 300 status response
    b) Validate database content is the same request content
    c) Validate the template will be loaded
    d) Validate response contains an specific text
    e) Validate response does not have some text

Algorithms

- Explain how the quick sort algorithm works. What difficulty does it present in best and worst-case scenarios? Is it stable?

  This algorithm use divide and conqueror concept. Its took a pivot, this pivot is one element for list. Using this pivot, its create two list one with equal or lesser values to pivot and the other one include all values are greater than pivot.

  Apply the same process to each sublist and finish when the sublist have a size 1, after that the algorithm concatened the result to each sub list will be concatened on the left the list with lesser values and on the right the greater values.

  The issue with quick sort algorithm is choice a pivot value, because choosing a incorrect value cause the worst case to algorithm.

- Describe a cycle-finding algorithm for a singly linked list with a O(1) space complexity.

  I create an infinite loop, the input must be the first element of the linked list.

  It start with the first element of linked list.

if the data in the element is the value I am looking for, we must break loop.

if the data in the element is not the value I am looking for, If next element on linked list does not exist, break the loop. If next element on the list exists, I put the reference of next element to actual value.

Motivation

Describe in a few sentences why you are interested in doing code review, and what motivated you to complete this test task.

I interest because a lot of time as programmer is doing code review and this task help others and reviewer, because reviewer can help programmer to improve their code and reviewer can learn from code, new techniques, void some mistakes their looked at.