

# Understanding developers questions

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## Developers may have questions about their code when:

- trying to understand source code
- developing a new feature
- refactoring
- etc.

## We want to understand:

- The reasons why the questions are asked
- Why is the developer confused

# Example

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## **Example Question:**

*How to write a test that expects an error to be thrown?*

# Example

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## **Example Question:**

*How to write a test that expects an error to be thrown?*

Question Type: not knowing how to implement something

# StackOverflow questions

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- How to export data from javascript in vuejs?
- Spring Batch Partition - partition creation taking so much time and impacting Batch job
- No suitable driver found for “jdbc:sqlite:myDB.sqlite” with java application using maven to connect to in-memory SQLite

# Can it be done?

Allamanis and Sutton “Why, When, and What: Analyzing Stack Overflow Questions by Topic, Type, and Code”, 2013:

*“A major finding is that the distribution over question types does not vary among languages, suggesting that we have found a domain-general categorization of questions.”*

# How?

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*How to write a test that expects an error to be thrown?*

## **Preprocessing:**

- Chunk the question and answer text

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## **Preprocessing:**

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- Remove noun phrases
- Consider all other chunks as single tokens
- Stem the verbs

## **Training:**

Train LDA using all StackOverflow questions.

# Question Types Sample

Topic	Top Phrases
<b>Topic1</b>	doesn't work, work, try, didn't, won't, isn't, wrong
<b>Topic2</b>	run, happen, cause, occur, fail, work, check, to see, fine, due
<b>Topic3</b>	hope, make, understand, give, to make, work, read, explain, check
<b>Topic4</b>	create, to create, is creating, call, can create, add, want to create
<b>Topic5</b>	return, pass, call, to pass, is returning, is passing, will return
<b>Topic6</b>	build, compile, include, link, to build, to compile, run, make
<b>Topic7</b>	faster, run, will be, slow, depend, make, can be, fast, would be
<b>etc.</b>	... , ... , ...

# Classifying Questions

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**Whats the type of this question?**

How to write a test that expects an error to be thrown?

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Question Type: *not knowing how to implement something*

# Classifying Questions

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Whats the type of this question?

**How to write** a **test** that expects an **error** to be **thrown**?

Question Type: *not knowing how to implement something*

Question Concept: *Testing*