## **Phase 1: Useful Sentence Selection**

# [Please read carefully before attempting the task!]

#### I. General Instructions:

- Attempt annotation if you are a native speaker of English or a fluent speaker who can comfortably comprehend a Stack Overflow post written in informal English.
- Annotators are required to take a 5-minutes break at each 30 minutes labeling.

#### II. The Goal

The goal of this labeling task is to identify the useful sentences from Stack Overflow answers to particular queries.

#### **III. Data Distribution**

The data to be labeled is in the form of a set of annotation units (AUs) while each AU consists of

- a specific technical query
- · a set of sentences to be labeled

Sentences to be labeled come from the Stack Overflow answers with respect to the query. In total, you are asked to label 50 annotation units related to 5 different programming languages in Stack Overflow, i.e., each category corresponds to 10 annotation units.

### IV. Task Formulation and Labeling Format

• Input: An annotation unit. Please see an example as below:

```
Query: "Why can't a Java class be declared as static?"
Sentences:
Answer: #0 (https://stackoverflow.com/a/2376950)
[ ] #0: "In Java, the static keyword typically flags a method or field as existing not once per instance of a
class, but once ever."
[] #1: "A class exists once anyway so in effect, all classes are "static" in this way and all objects are
instances of classes."
[ ] #2: "static does have a meaning for inner classes, which is entirely different: Usually an inner class
instance can access the members of an outer class instance that it's tied to, but if the inner class is static,
it does not have such a reference and can be instantiated without an instance of the outer class.'
 [ ] #3: "Maybe you saw that someplace, then tried to use it on a top-level class, where it isn't meaningful." [ ] #4: "Or maybe you saw it in other languages like C#, whose syntax is an awful lot like Java's."
 [] #5: "(One time I couldn't figure out why an outer class instance wasn't being garbage-collected -- it was
because I was keeping a reference to one of its inner class instances elsewhere, and the inner class was not
static and so had a reference to the outer class instance."
 [ ] #6: "So by default, I make inner classes static now.)"
Answer: #1 (https://stackoverflow.com/a/2376976)
[ ] #7: "To prevent a particular class being instantiated you should add a private Constructor."
[ ] #8: "This stops 'any other' Class from being able to create an object of type <u>Qwert</u>."
 [] #9: "for example:"
           [code snippet]
Answer: #2 (https://stackoverflow.com/a/12514136)
[ ] #10: "To prevent any class from creating an instance of Qwert, either by inheritance or by using
[reflection](http://www.java2s.com/Tutorial/Java/0125__Reflection/CallPrivateconstructor.htm), you make the
constructor fail by placing a poison pill:"
           [code snippet]
```

- Output: You are asked to fill the label (i.e., 0, 1, ?) in the [] before each sentence that needs to be labeled as shown in the red boxes in the above picture. Meanwhile, you're asked to provide the total time spent working on this task.
  - Fill in the [] with **0** if you think the sentence is poorly-written or don't contain useful information to answer the query.
  - Fill in the [] with **1** if you think the sentence are well-written and contains useful information to answer the query.
  - Fill in the [] with **?** if **you're unsure** whether the sentences are well-written or contains useful information to answer the query.

After you finish the annotation, the annotation unit example above is expected to be labeled as follow:

```
Sentences:
Answer: #0 (https://stackoverflow.com/a/2376950)
[1] #0: "In Java, the static keyword typically flags a method or field as existing not once per instance of a
class, but once ever.'
 [1] #1: "A class exists once anyway so in effect, all classes are "static" in this way and all objects are
instances of classes."
[1] #2: "static does have a meaning for inner classes, which is entirely different: Usually an inner class
instance can access the members of an outer class instance that it's tied to, but if the inner class is static,
it does not have such a reference and can be instantiated without an instance of the outer class."
 [?] #3: "Maybe you saw that someplace, then tried to use it on a top-level class, where it isn't meaningful." [?] #4: "Or maybe you saw it in other languages like C#, whose syntax is an awful lot like Java's."
[0] #5: "(One time I couldn't figure out why an outer class instance wasn't being garbage-collected — it was because I was keeping a reference to one of its inner class instances elsewhere, and the inner class was not
static and so had a reference to the outer class instance."
 [0] #6: "So by default, I make inner classes static now.)"
Answer: #1 (https://stackoverflow.com/a/2376976)
[1] #7: "To prevent a particular class being instantiated you should add a private Constructor."
[1] #8: "This stops 'any other' Class from being able to create an object of type Owert."
[0] #9: "for example:"
            [code snippet]
Answer: #2 (https://stackoverflow.com/a/12514136)
 [1] #10: "To prevent any class from creating an instance of Qwert, either by inheritance or by using
[reflection](http://www.java2s.com/Tutorial/Java/0125_Reflection/CallPrivateconstructor.htm), you make the
```

#### V. Hints

constructor fail by placing a poison pill:"

[code snippet]

Query: "Why can't a Java class be declared as static?"

- 1. Sentences are ordered, which means you can get contextual information from sentences before and after labeling one. Please always keep in mind that: even though annotators can read the context to help to understand the target sentence, the goal of this task is to identify whether the target sentence itself is useful to answering the query or not. For example, suppose an answer is explained by a specific example that consists of a set of sentences. In that case, annotators can use context sentences to understand each sentence. Still, they must identify the usefulness of each sentence independently (i.e., the annotators can't simply assume all the sentences are helpful to the query if this example is overall helpful).
- 2. Even selecting *none* or *all* sentences in a single answer is acceptable, if you think it's the right choice.
- 3. **General comments** about the query itself or solutions should often be avoided, as they don't provide further useful information **to answer the query**. The following examples illustrate such cases:
  - "I hate Jss!"
  - "Example:"