To Comment or Not to Comment?

While reading code, **often there is nothing more helpful than a well-placed comment.** However, **comments are not always good.** Sometimes the need for a comment can be a sign that the code should be refactored.

Use a comment when it is infeasible to make your code self-explanatory. If you think you need a comment to explain what a piece of code does, first try one of the following:

- Introduce an explaining variable.

```
// Subtract discount from price.
finalPrice = (numItems * itemPrice)
    - min(5, numItems) * itemPrice * 0.1;
```

```
price = numItems * itemPrice;
discount =
    min(5, numItems) * itemPrice * 0.1;
finalPrice = price - discount;
```

- Extract a method.

```
// Filter offensive words.
for (String word : words) { ... }
```

```
filterOffensiveWords(words);
```

- Use a more descriptive identifier name.

```
int width = ...; // Width in pixels.
```

```
int widthInPixels = ...;
```

- Add a check in case your code has assumptions.

```
// Safe since height is always > 0.
return width / height;
```

```
checkArgument(height > 0);
return width / height;
```

There are cases where a comment can be helpful:

- Reveal your intent: explain *why* the code does something (as opposed to *what* it does).

```
// Compute once because it's expensive.
```

- Protect a well-meaning future editor from mistakenly "fixing" your code.

```
// Create a new Foo instance because Foo is not thread-safe.
```

- Clarification: a question that came up during code review or that readers of the code might have.

```
// Note that order matters because...
```

- Explain your rationale for what looks like a bad software engineering practice.

```
@SuppressWarnings("unchecked") // The cast is safe because...
```

On the other hand, **avoid comments that just repeat what the code does**. These are just noise:

```
// Get all users.
userService.getAllUsers();
```

```
// Check if the name is empty.
if (name.isEmpty()) { ... }
```

More information, discussion, and archives:

testing.googleblog.com