Understanding Garbage Collectors

in object-oriented programming

Lecture 1 - Introduction

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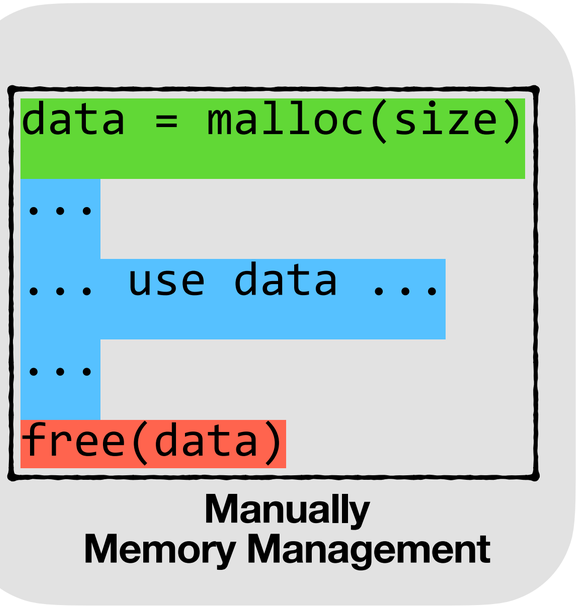
Memory Management

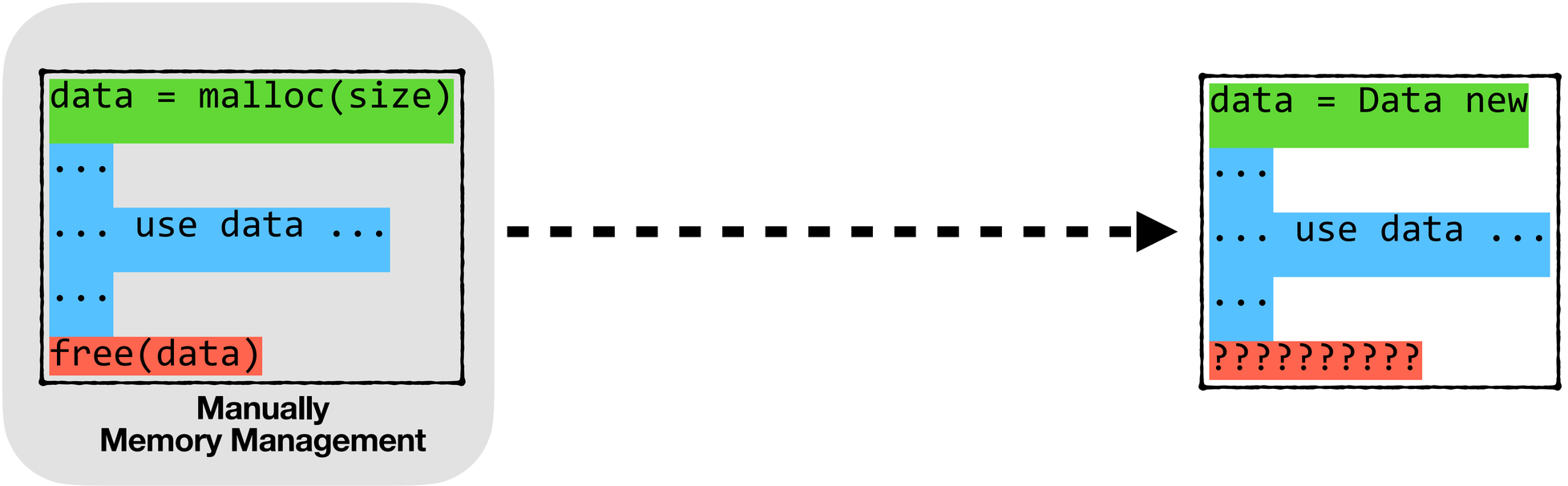
Garbage Collection

Manually Memory Management

A work for devs?



Automatic Memory Management



Automatic Memory Management

Garbage Collectors

Compute the size
Allocate in the memory

```
data = malloc(size)
...
... use data ...
...
free(data)
```

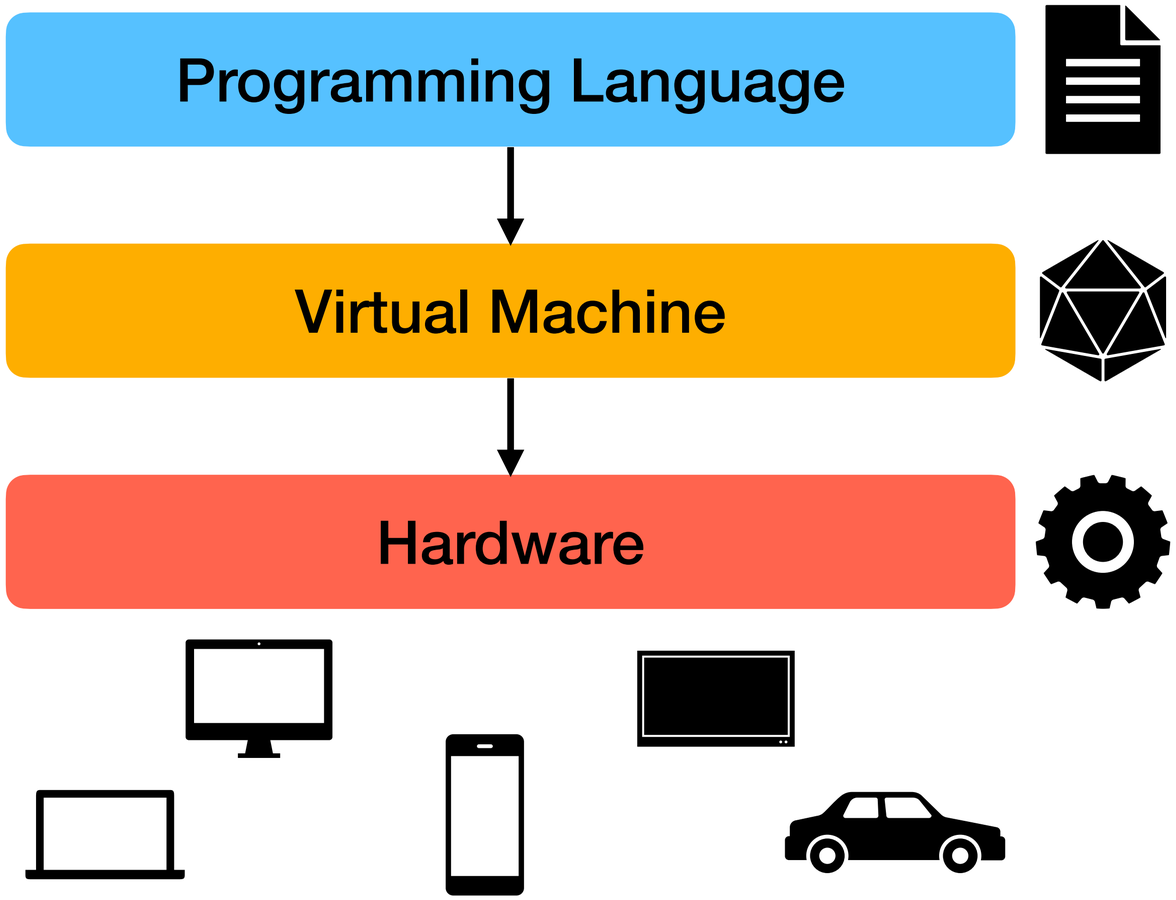
Manually
Memory Management

```
data = Data new
...
... use data ...
...
??????????
```

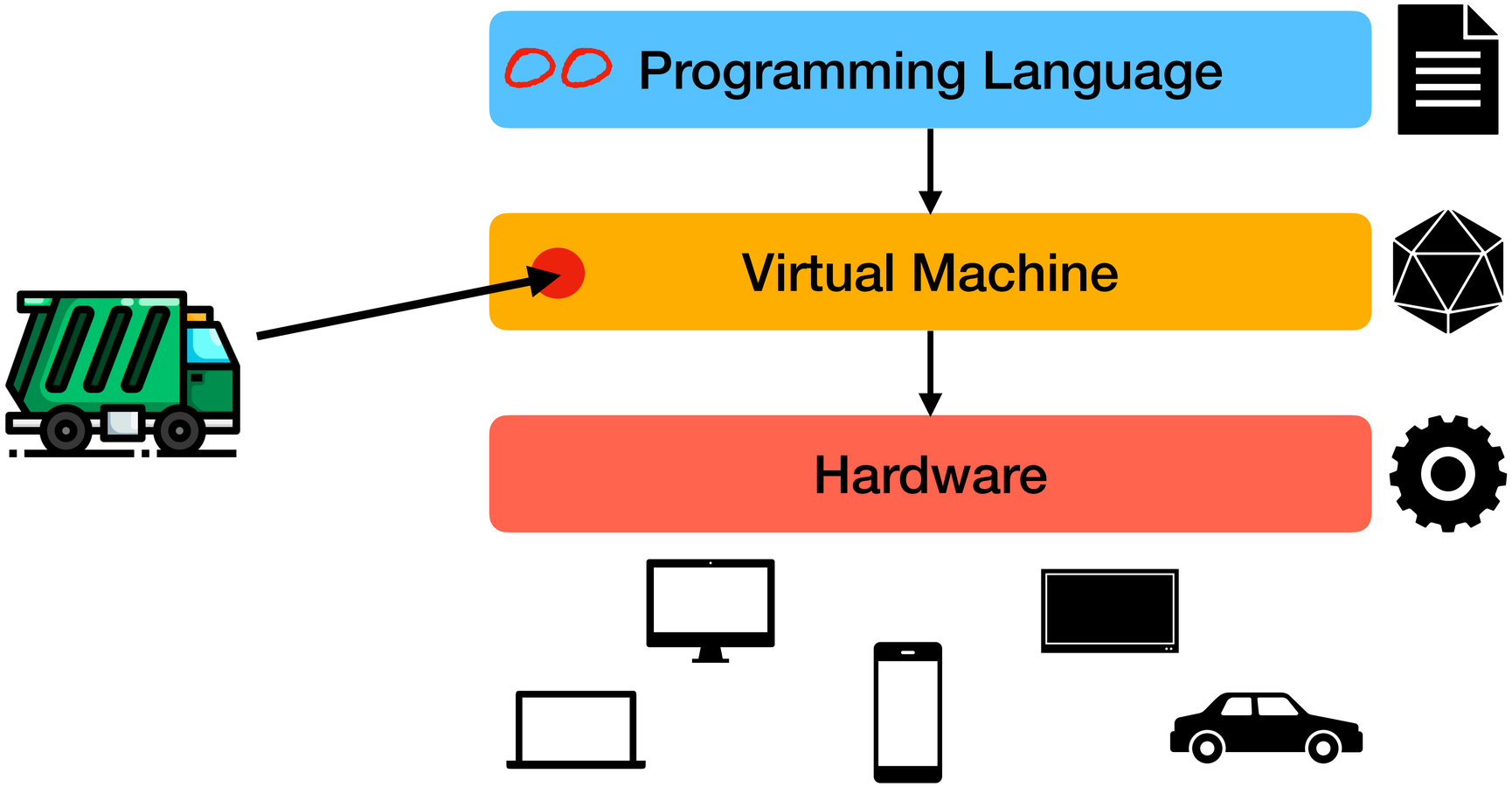
Maybe move the data for better use of the memory

Free the space when data is not used anymore

Language Virtual Machines

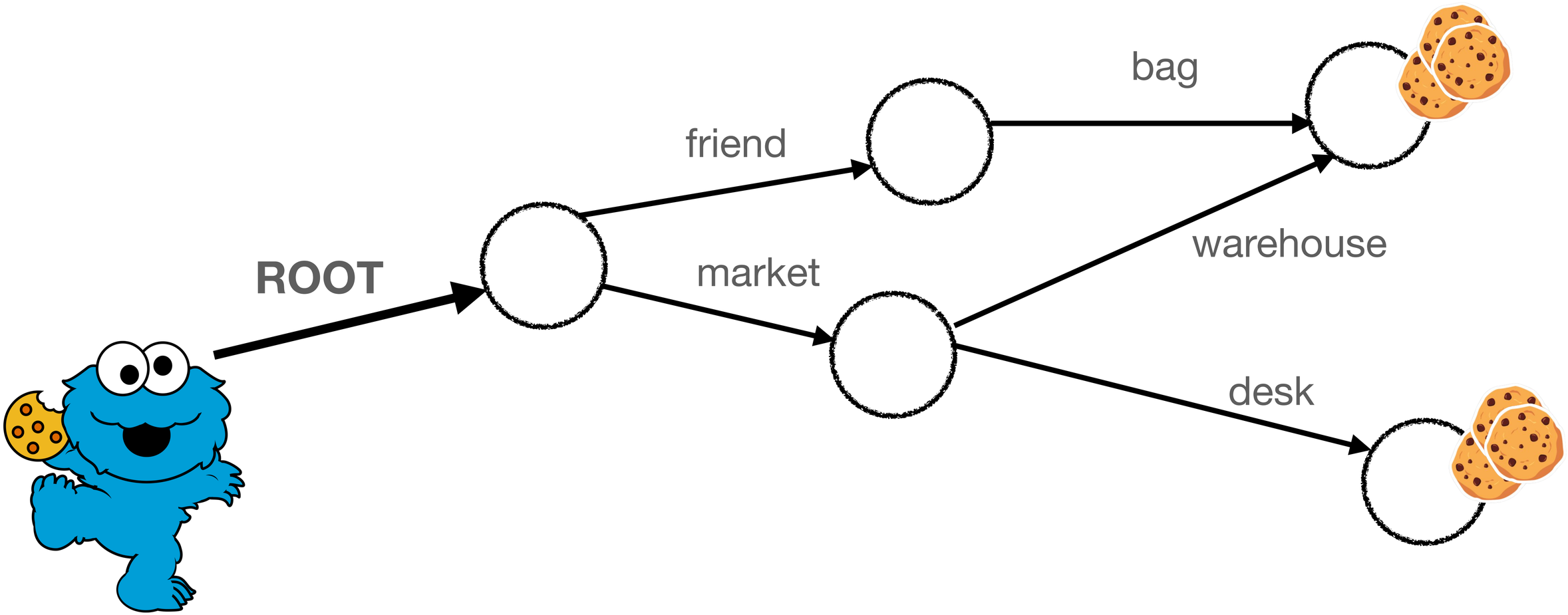


Language Virtual Machines



How Garbage Collectors works in object-oriented programs?

Let’s start with a game…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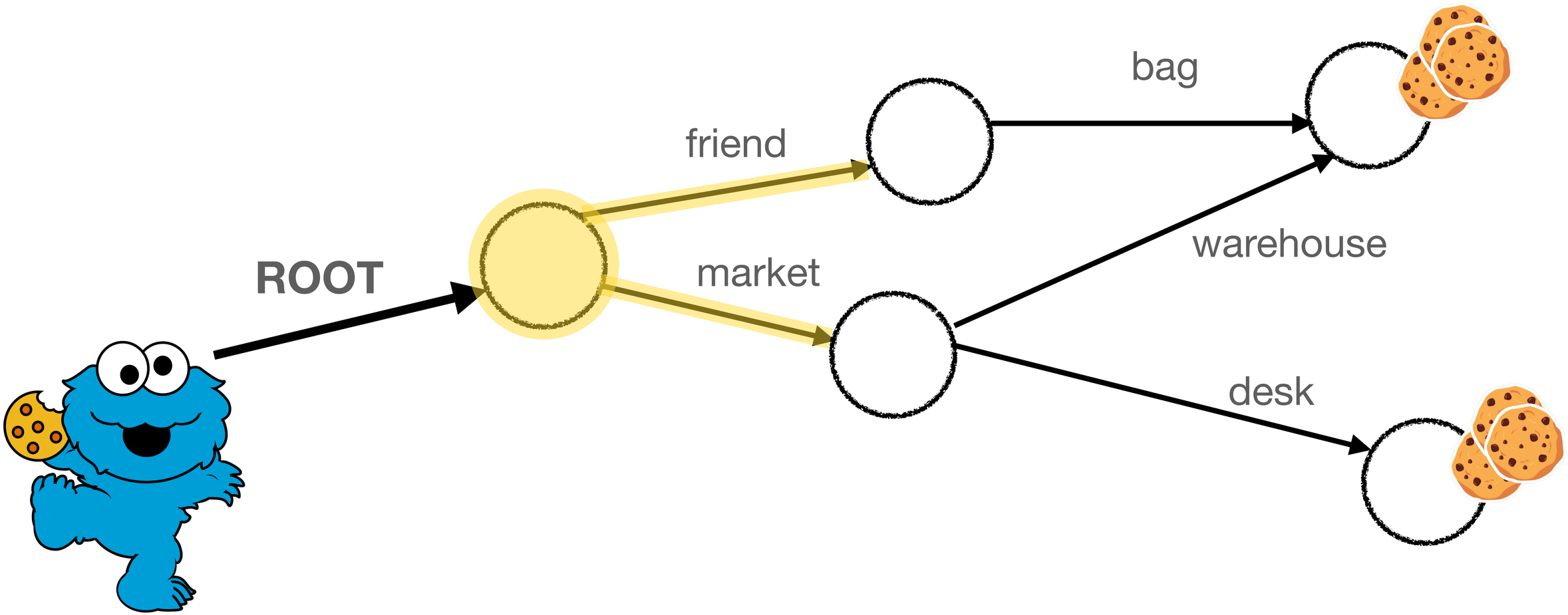
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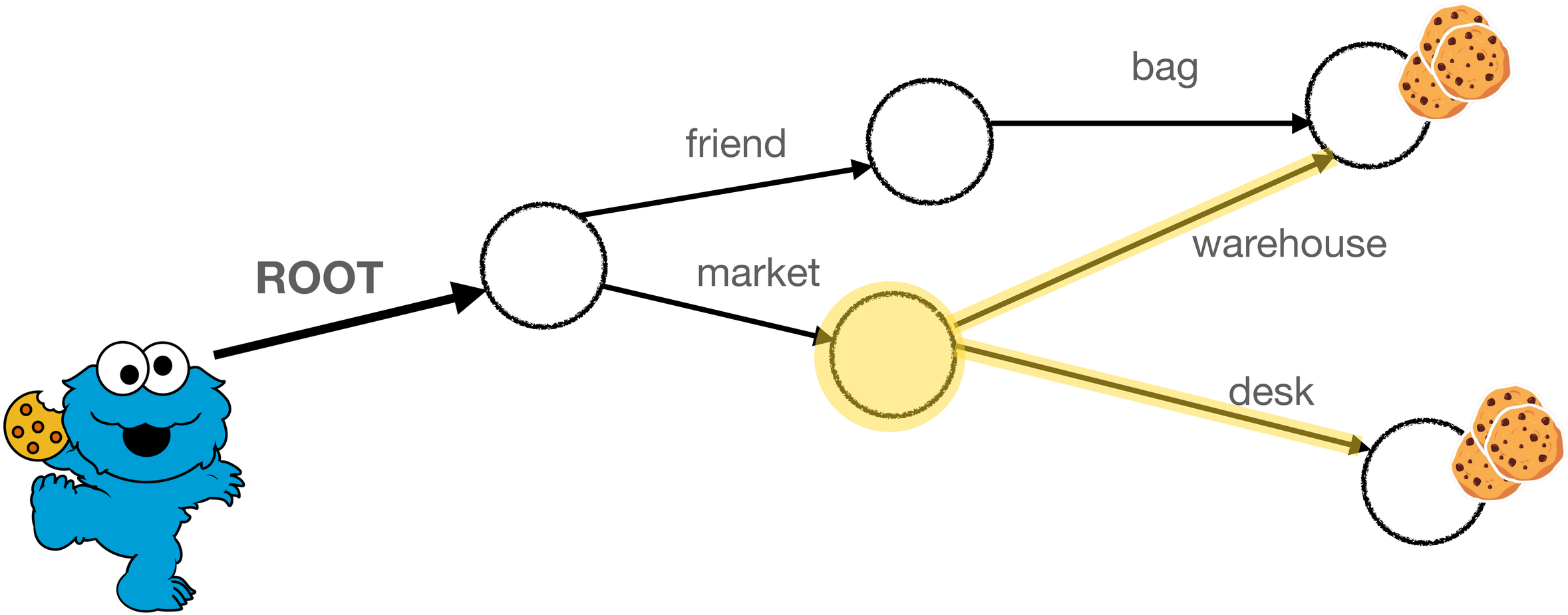
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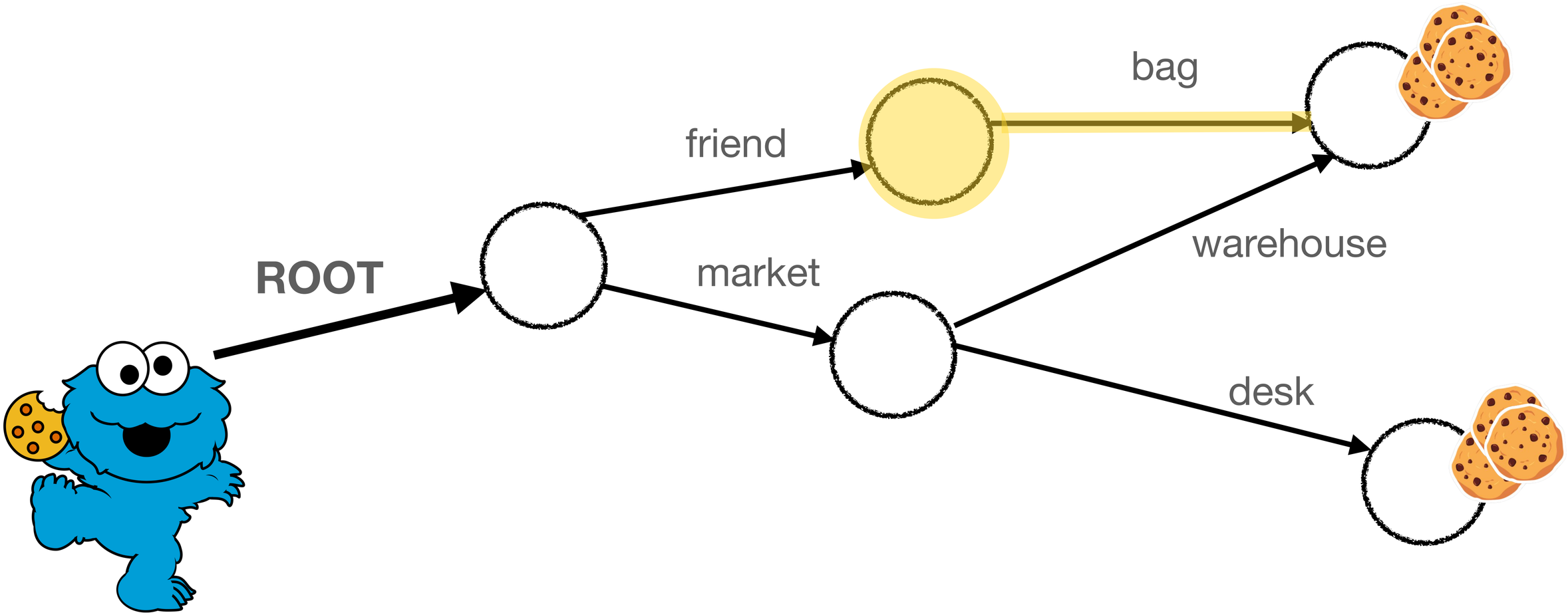
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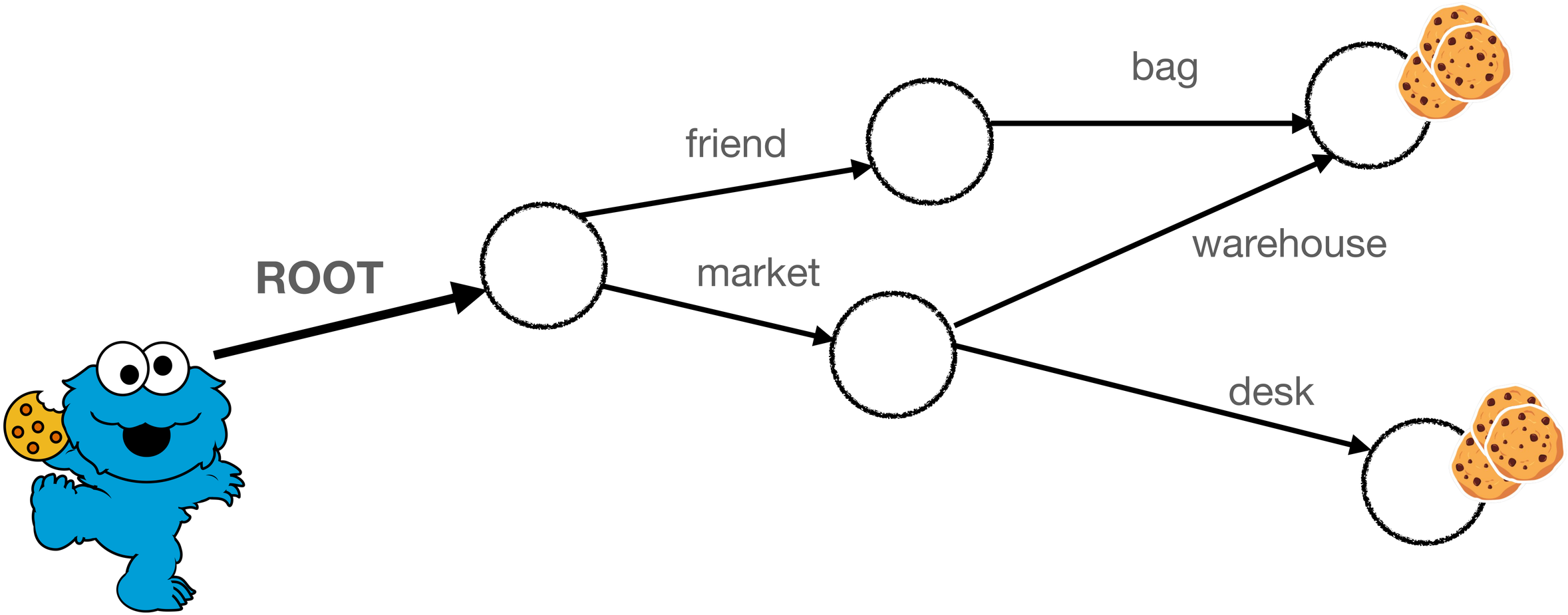
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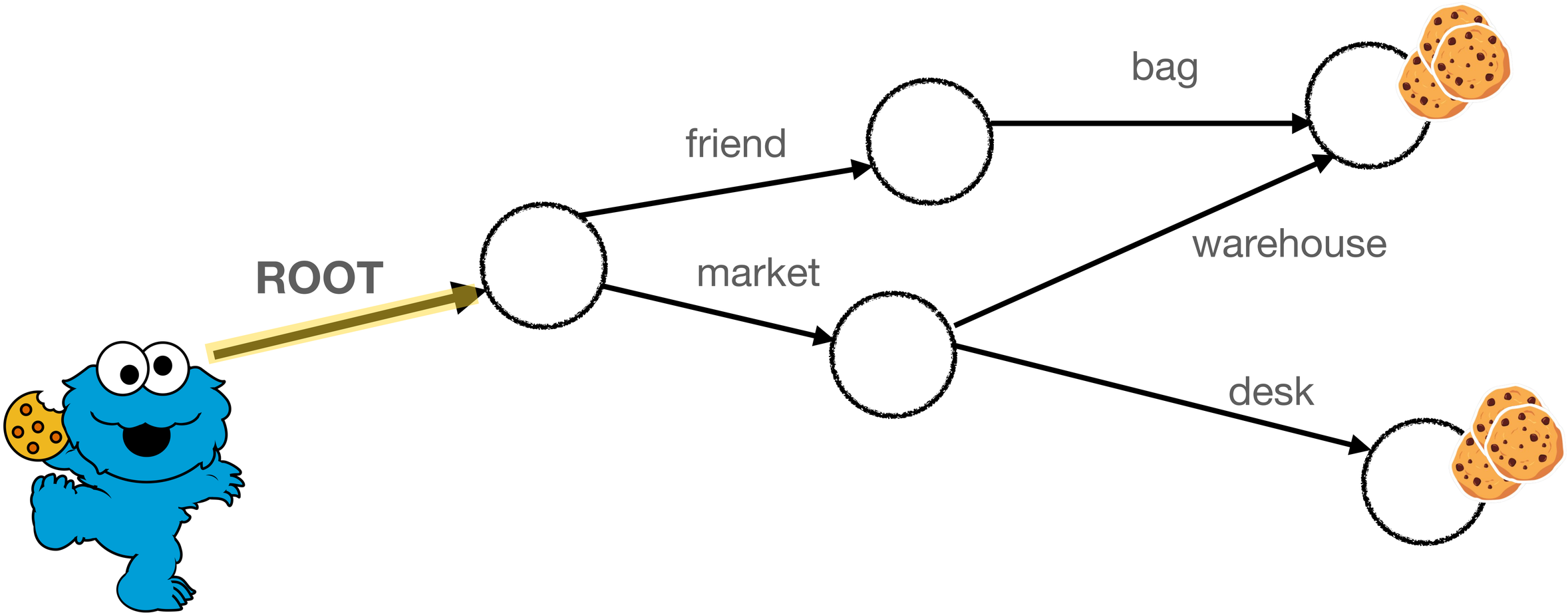
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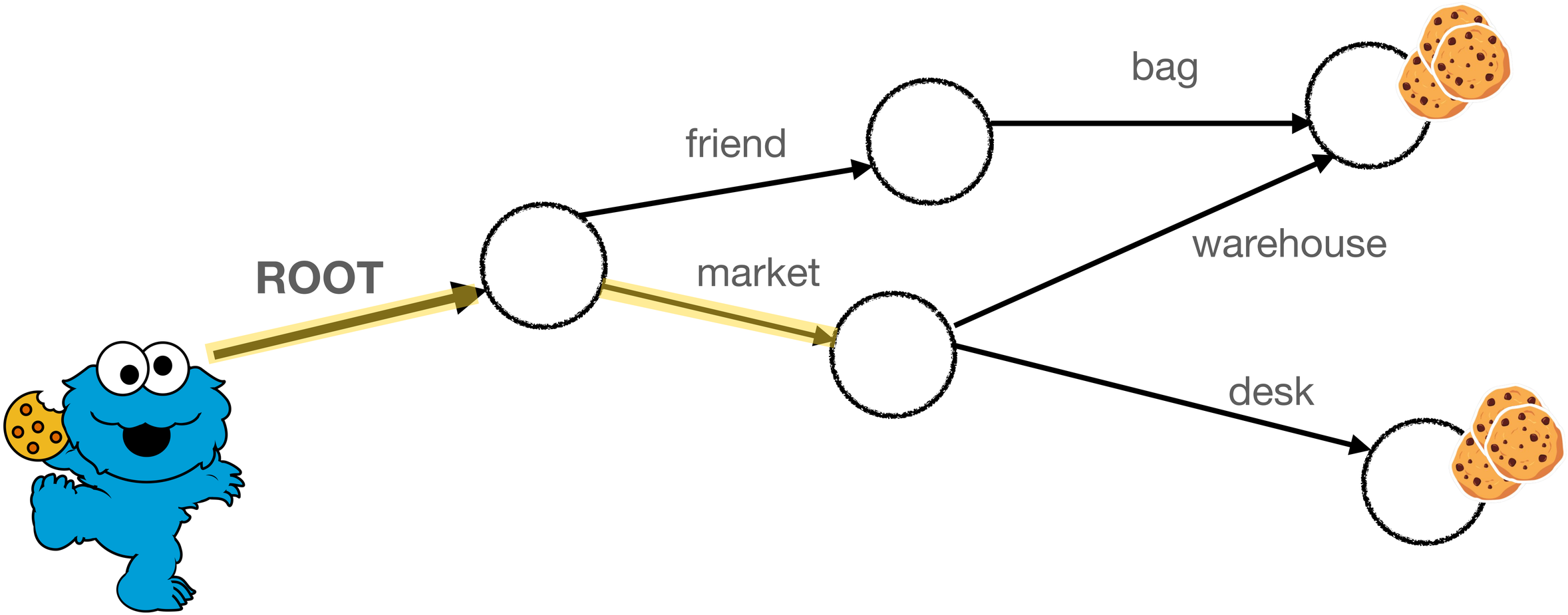
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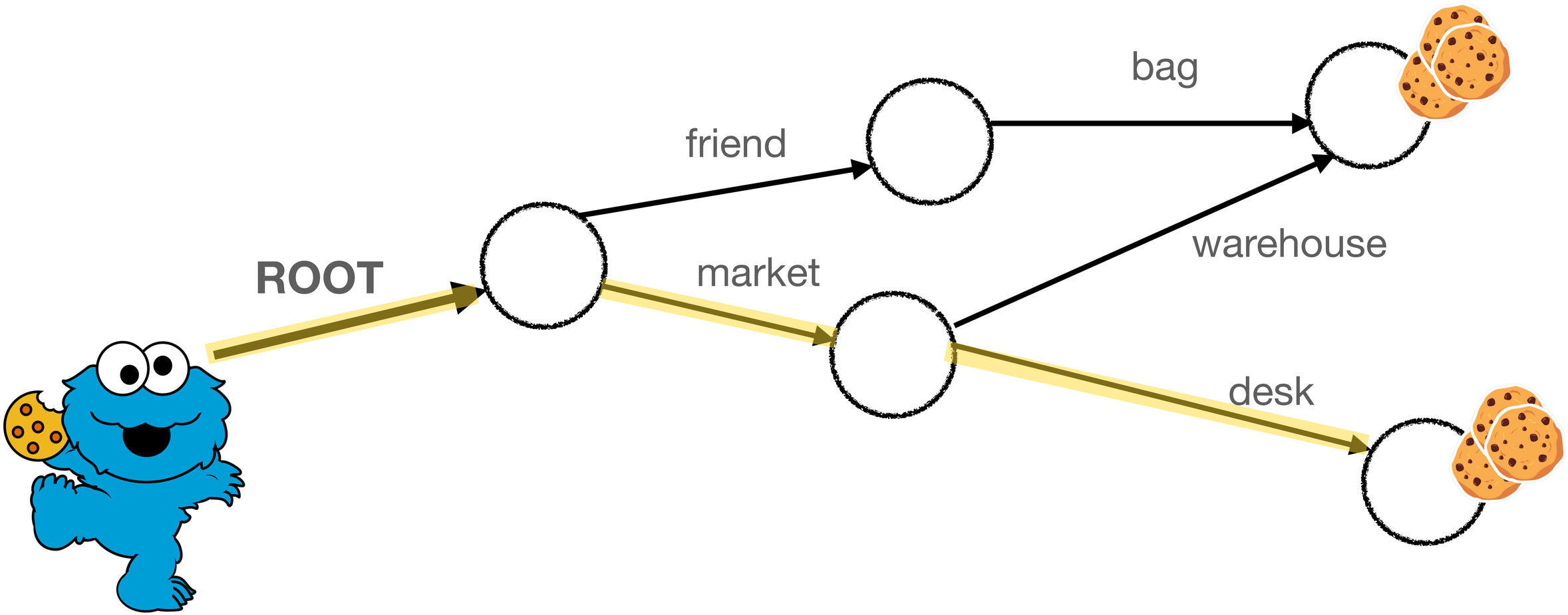
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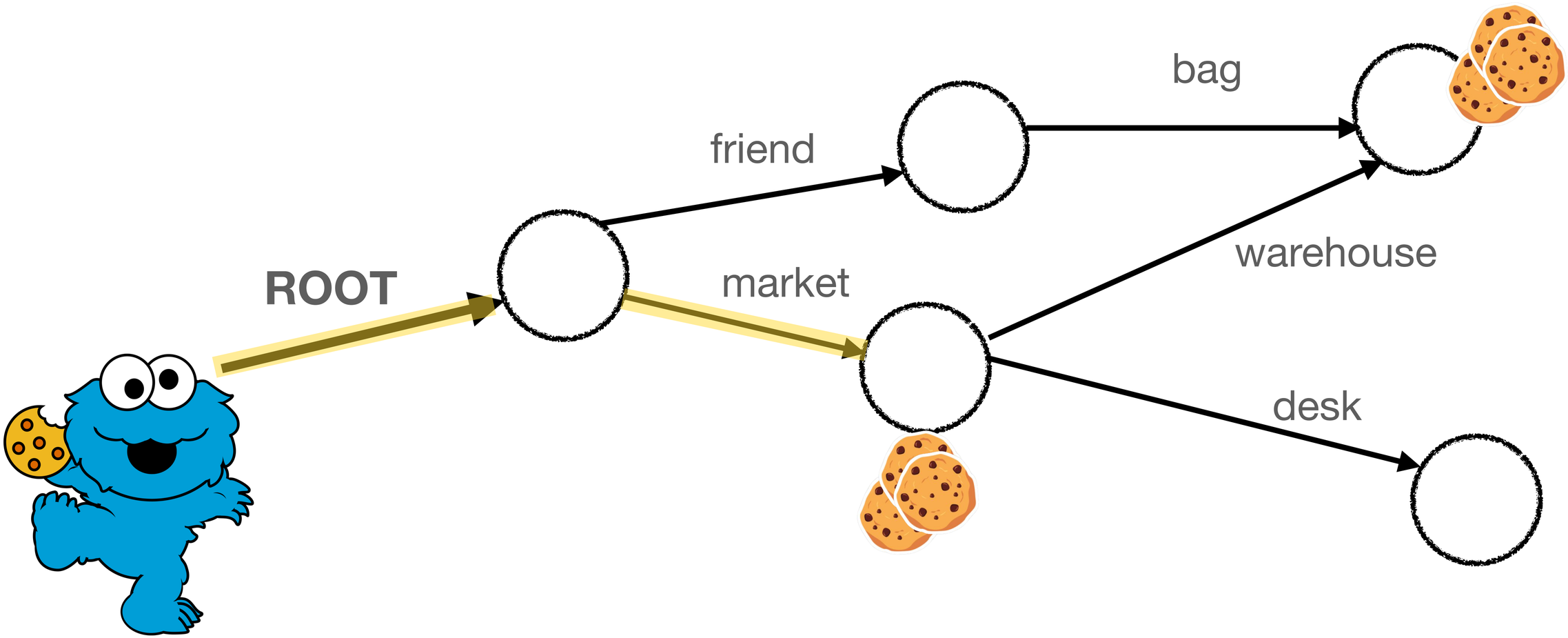
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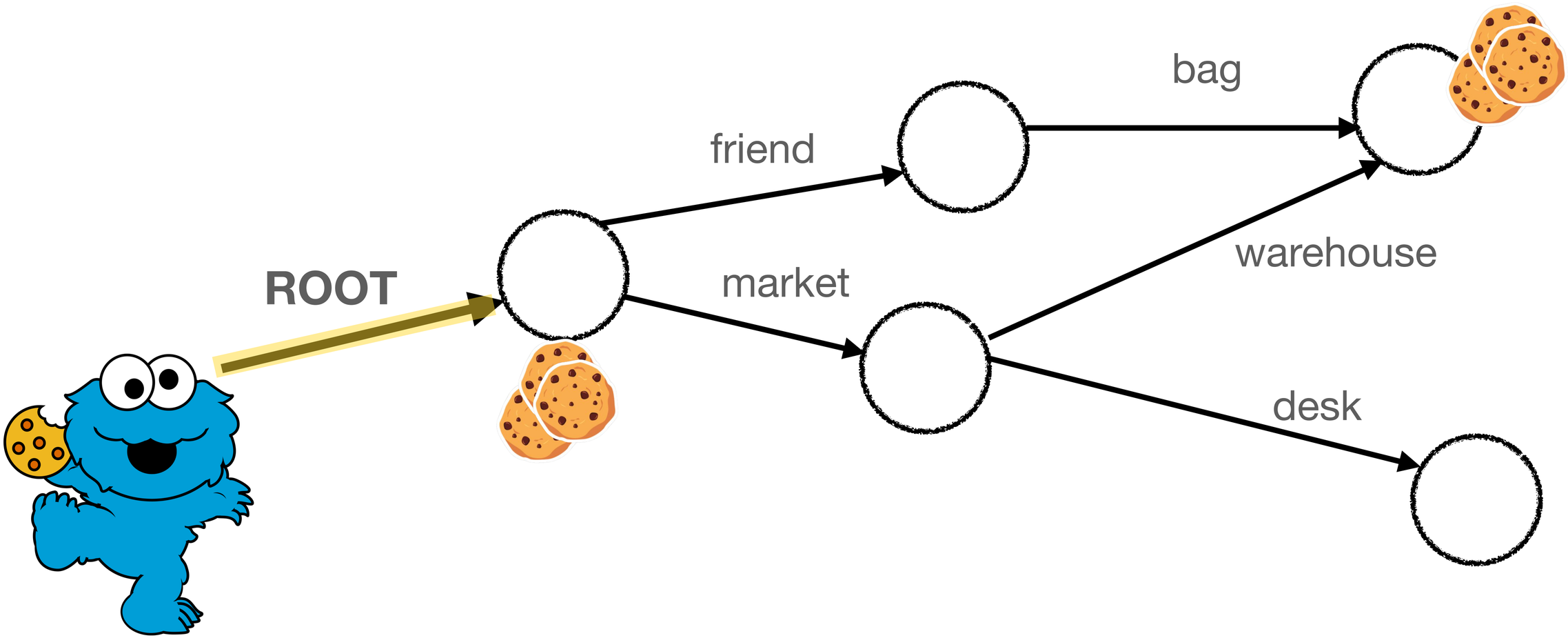
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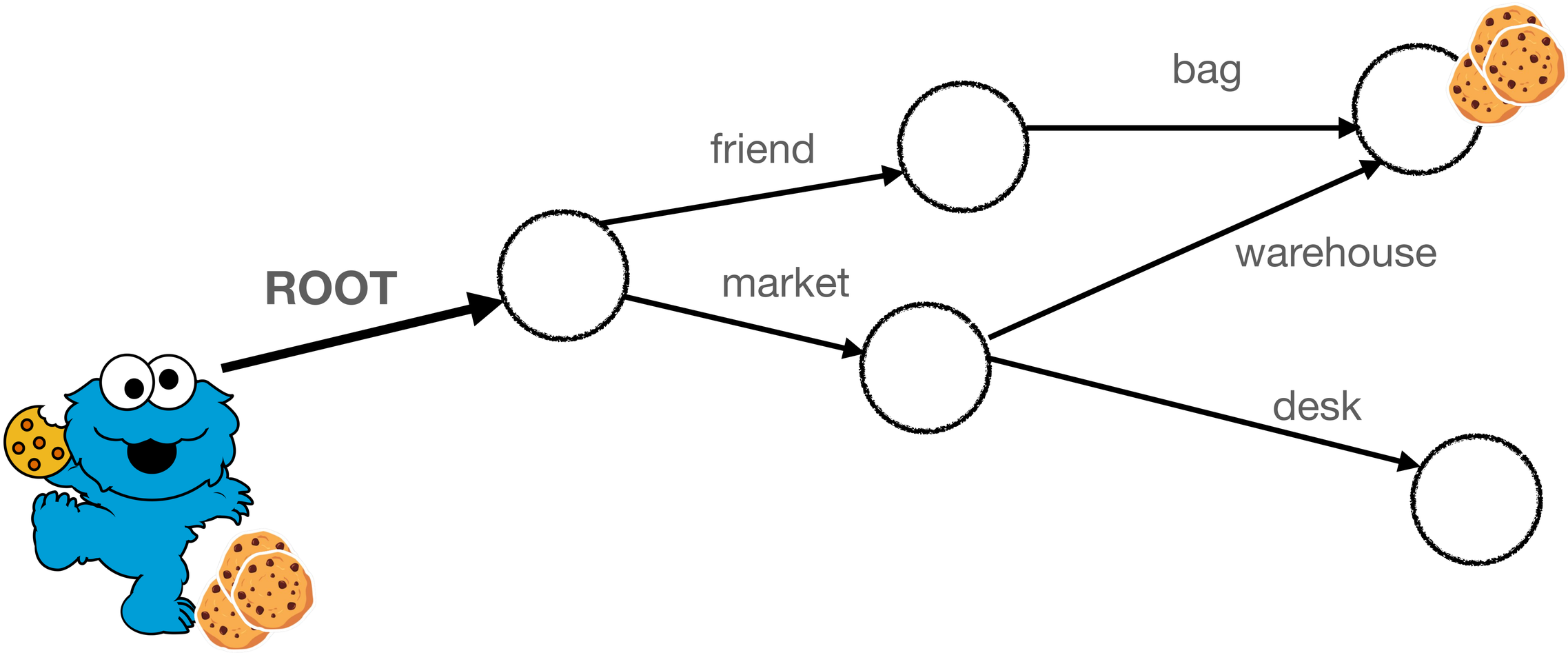
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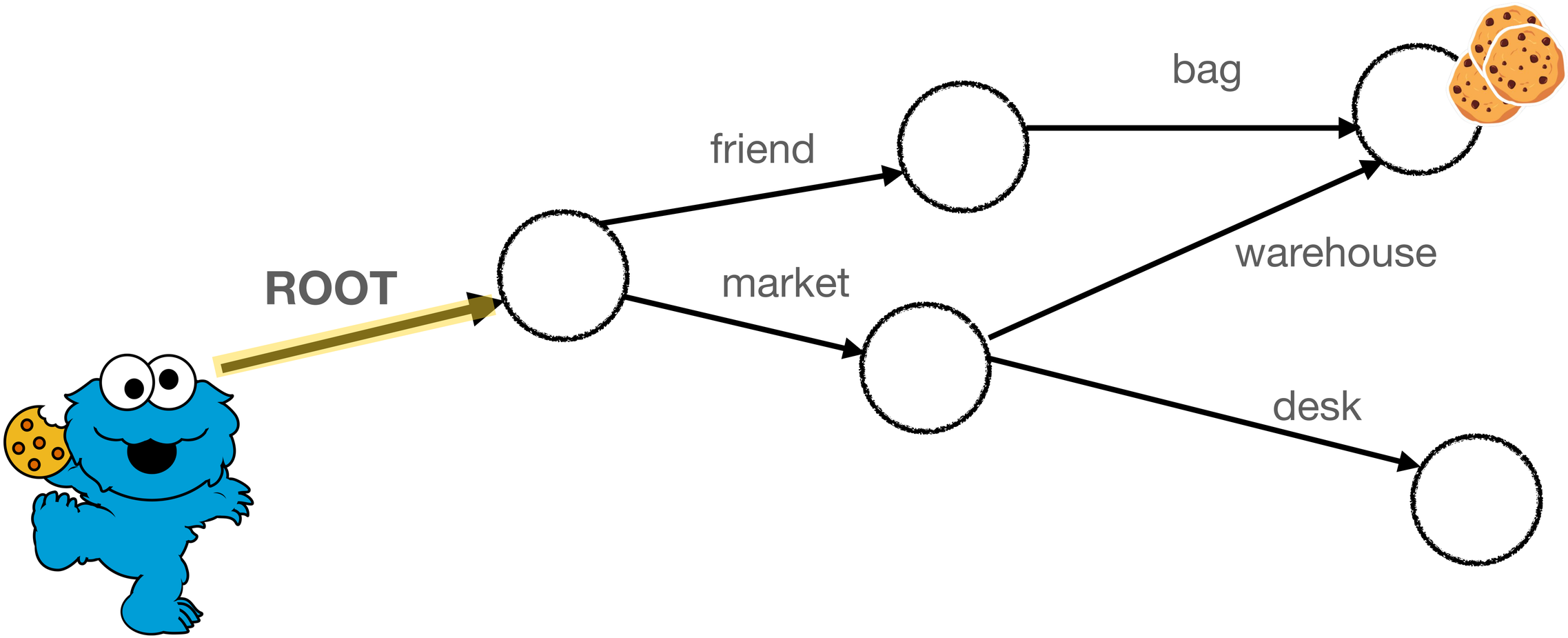
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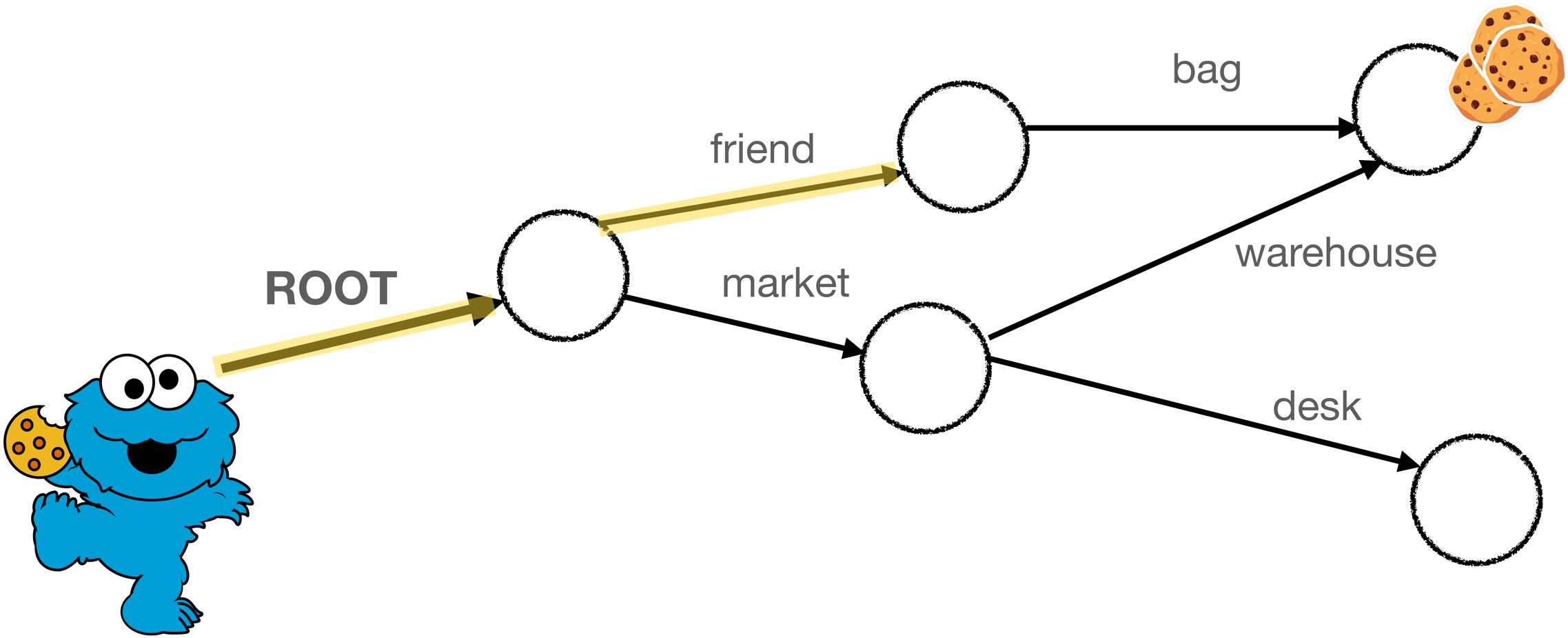
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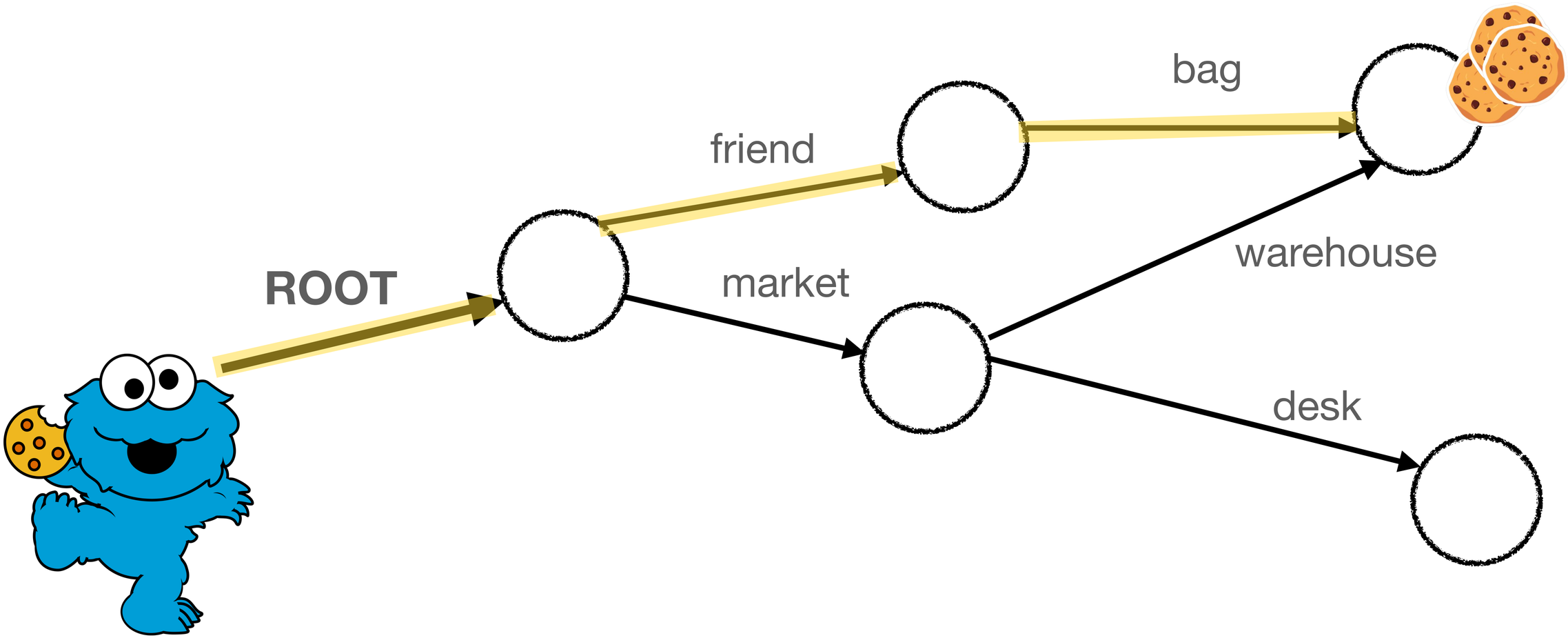
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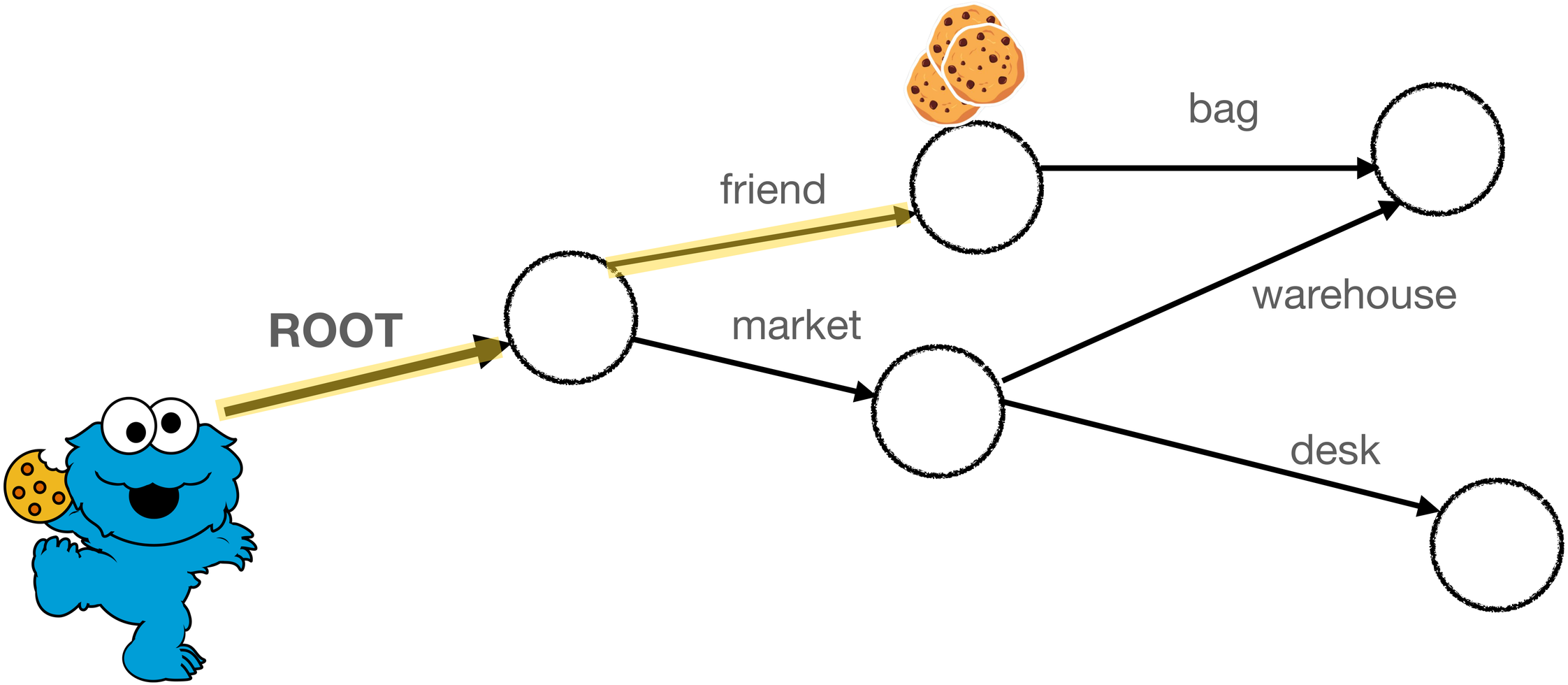
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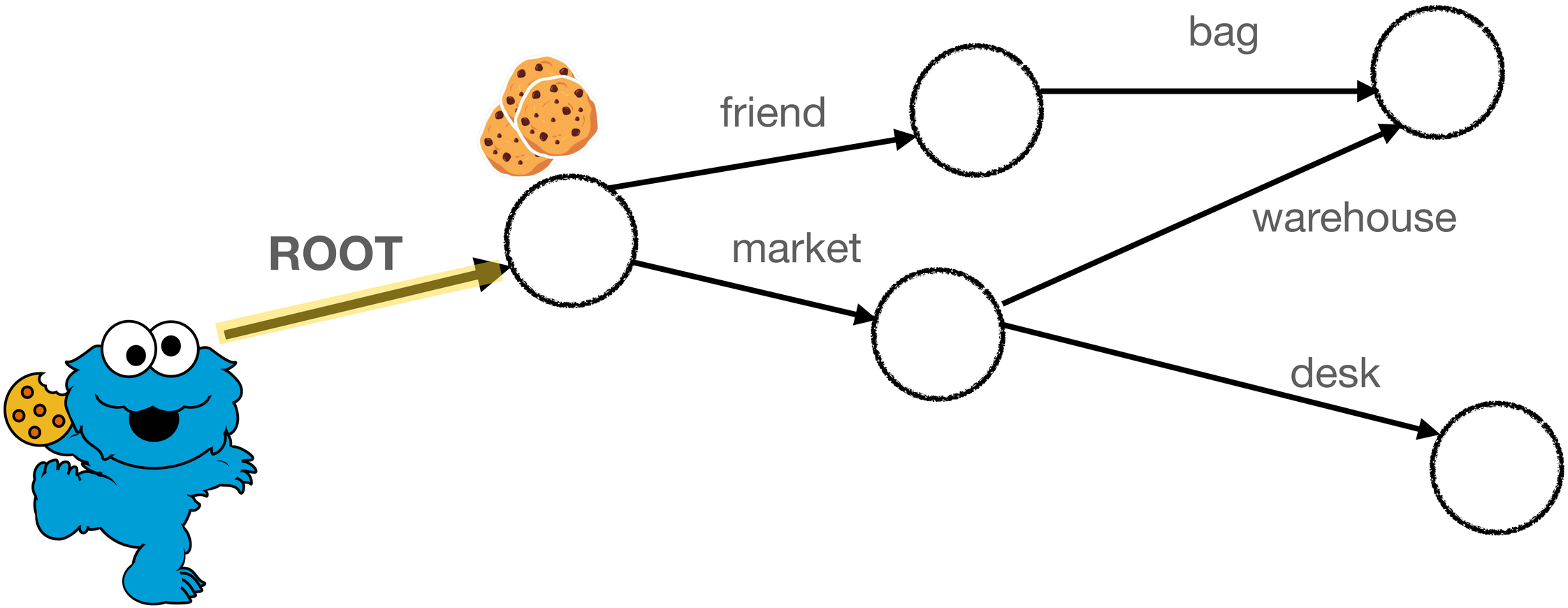
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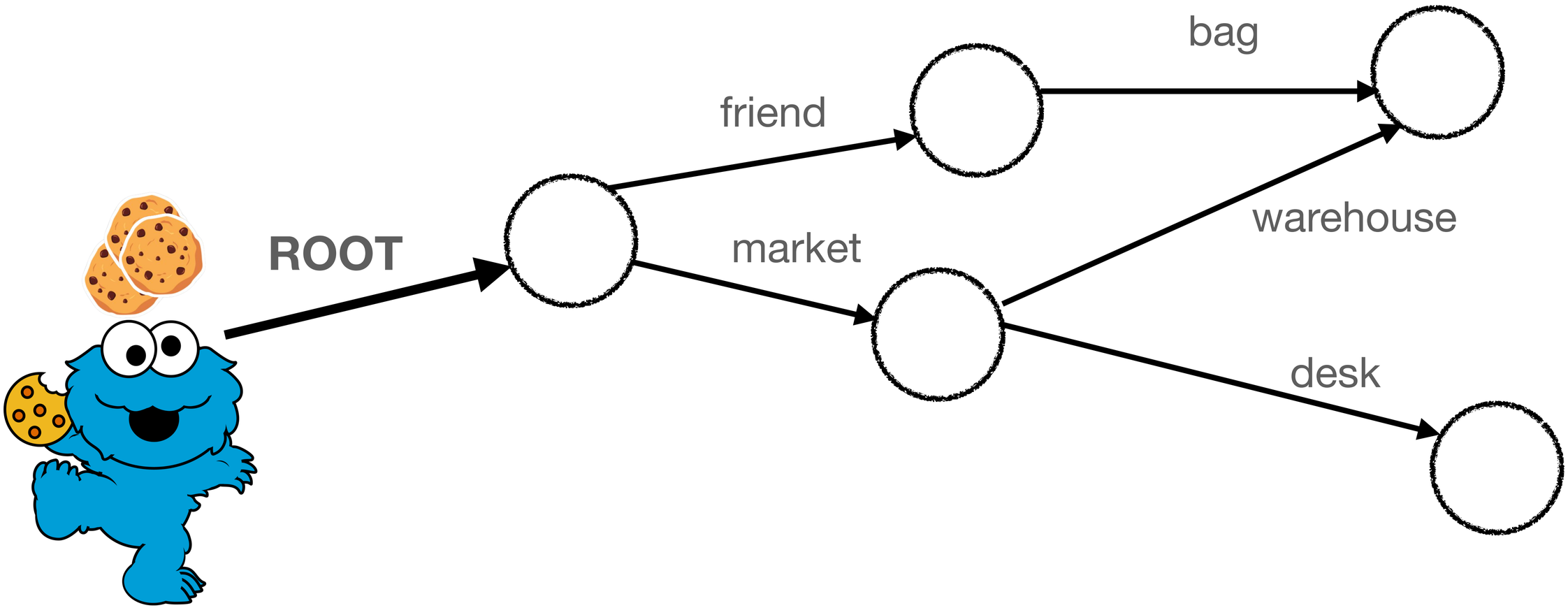
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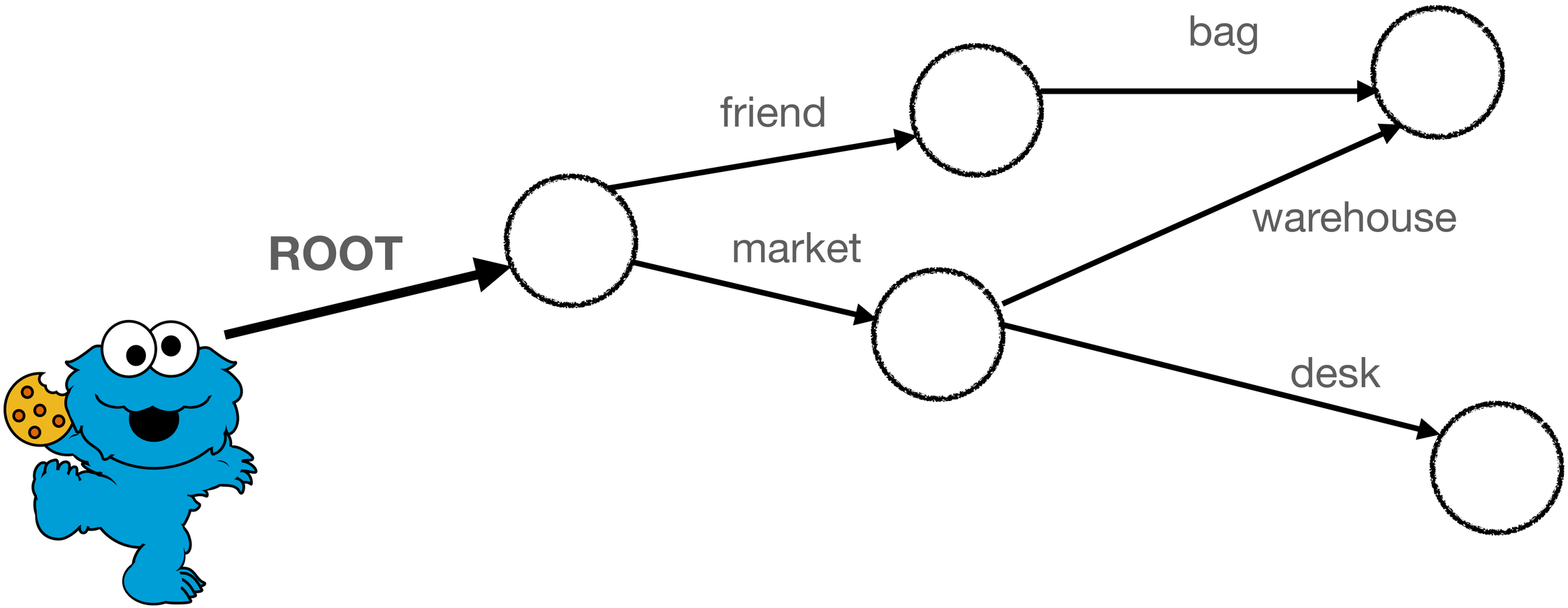
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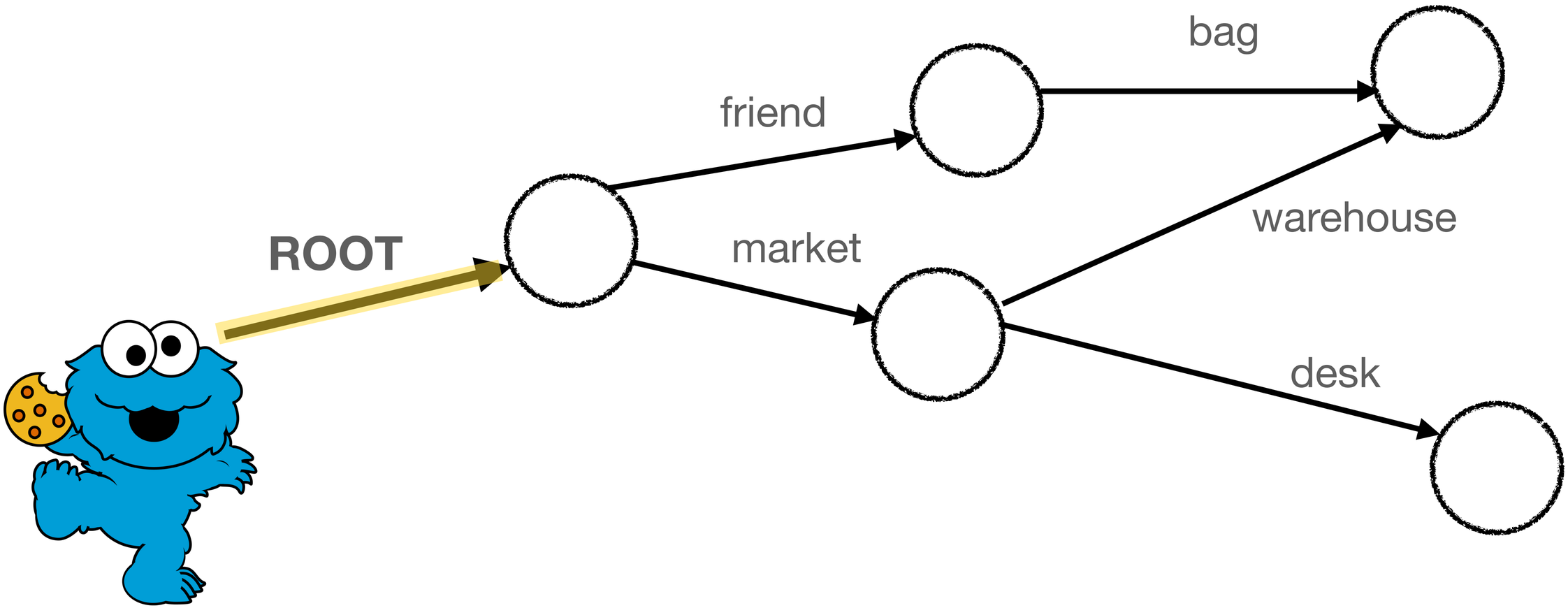
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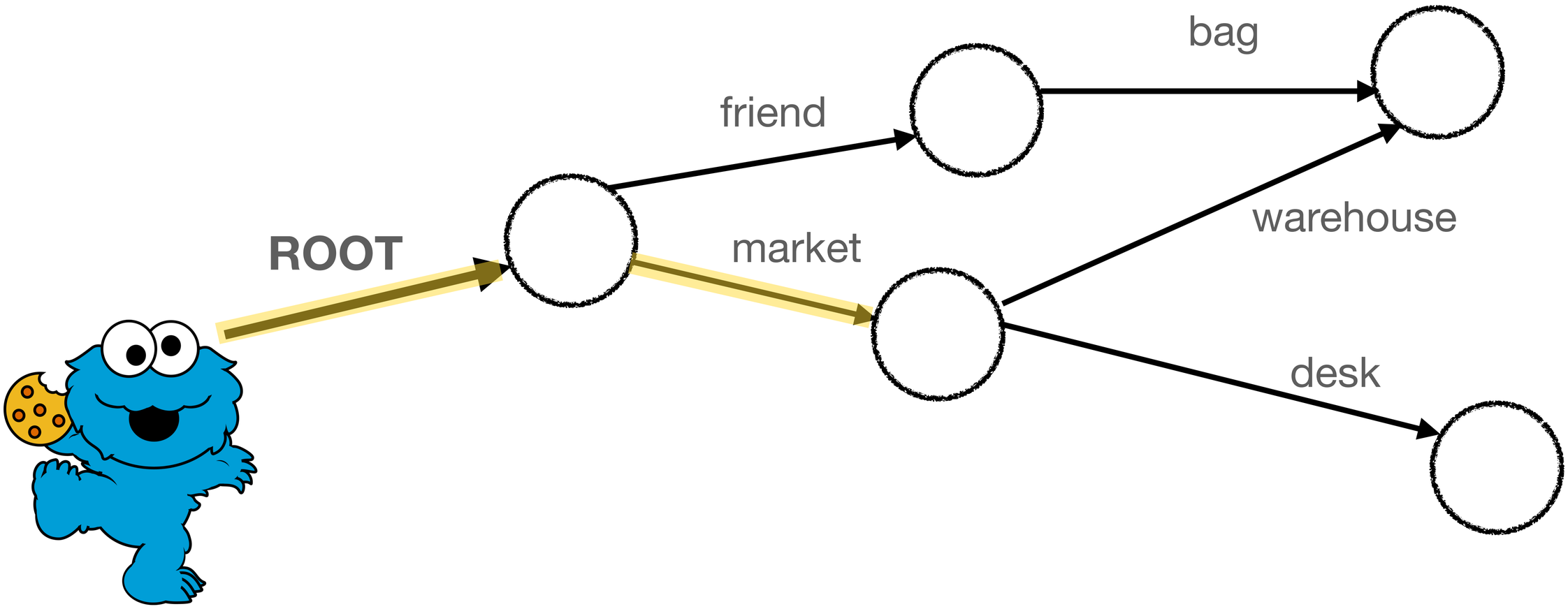
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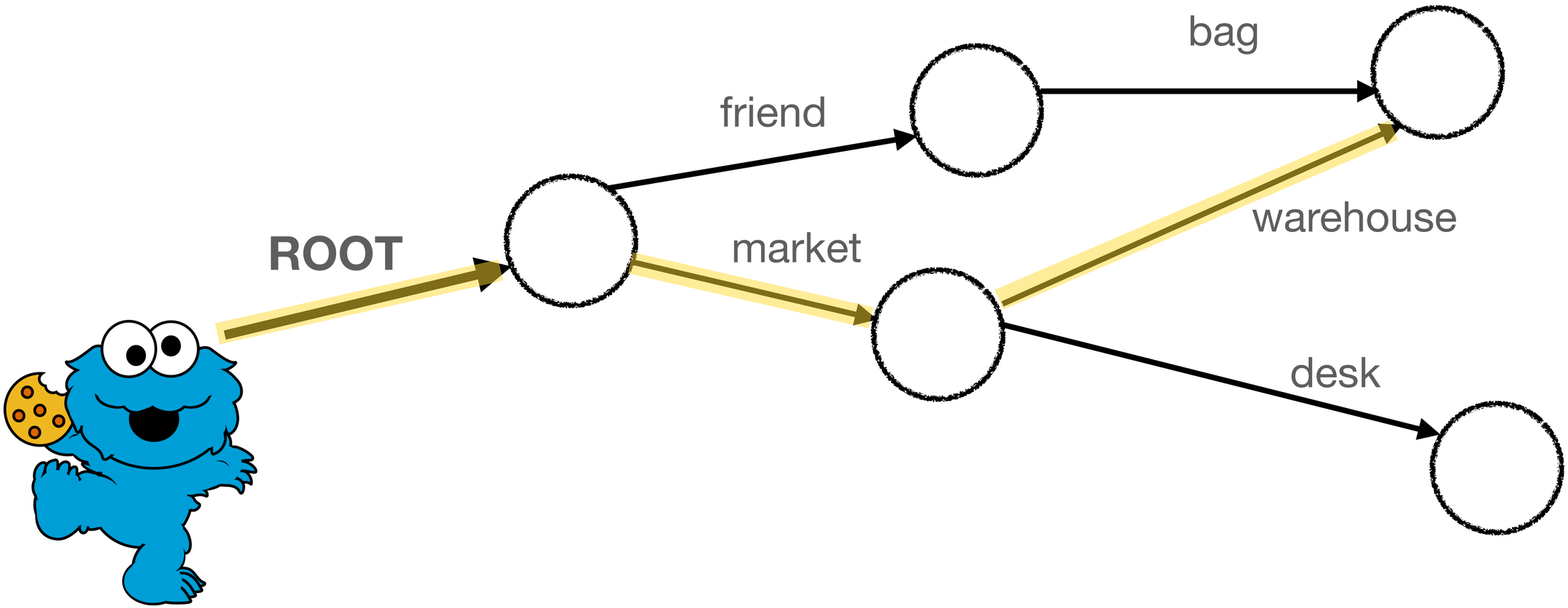
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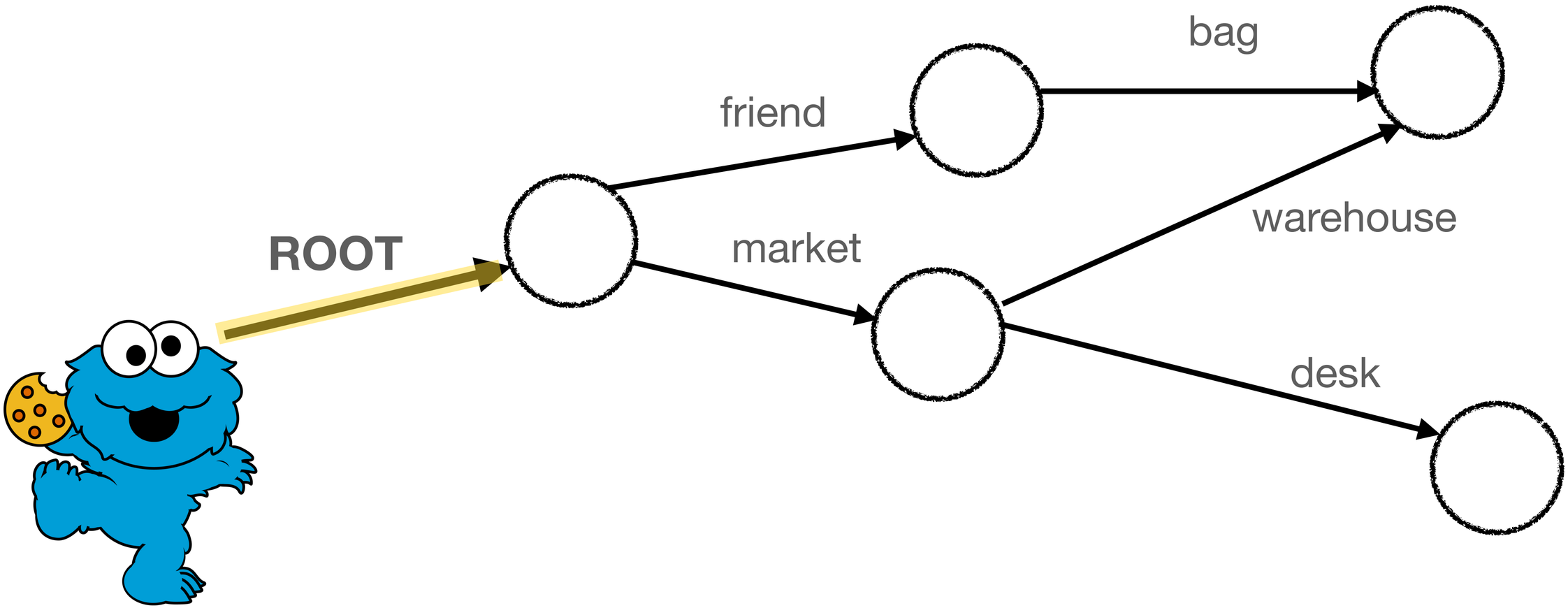
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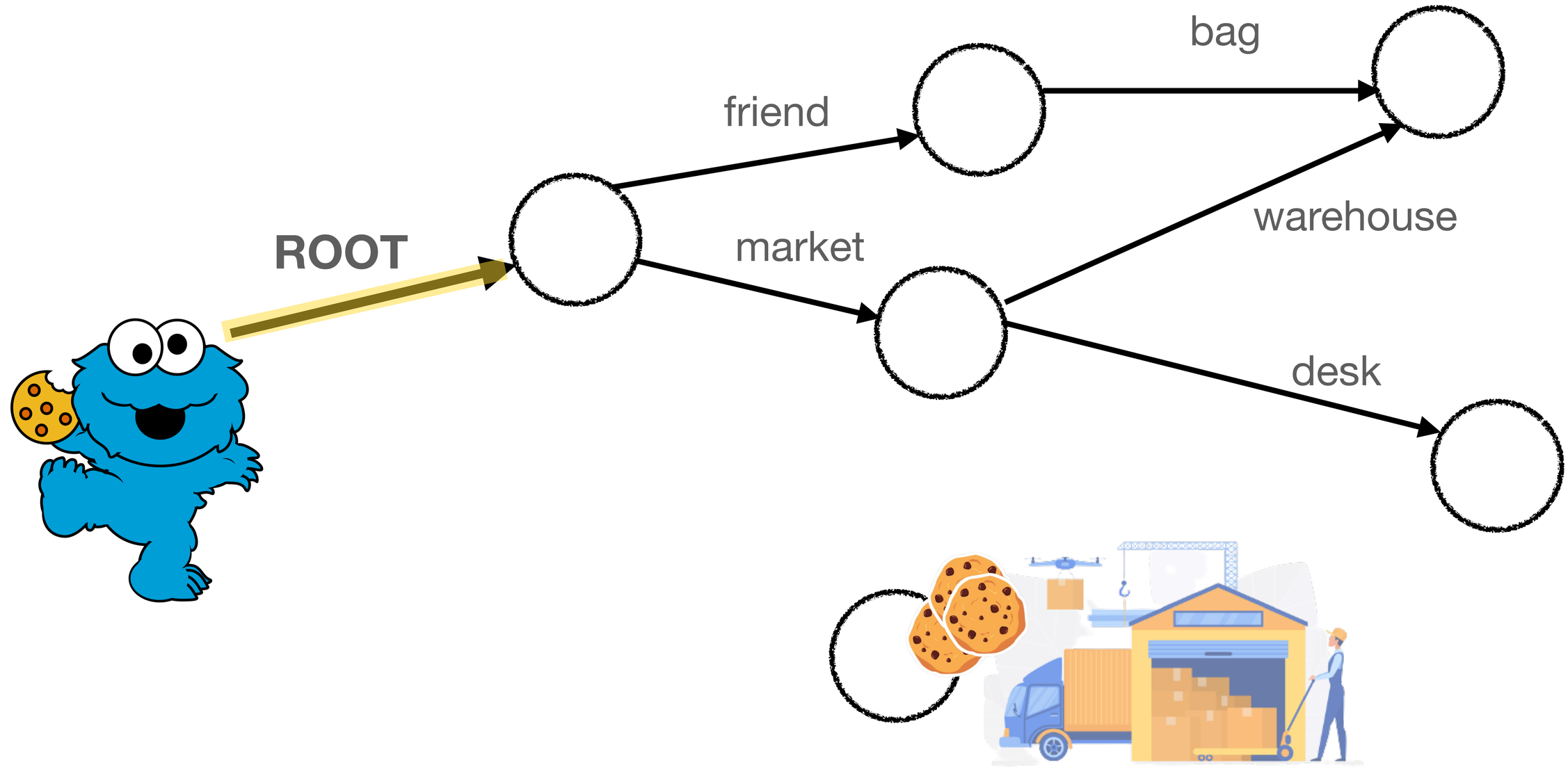
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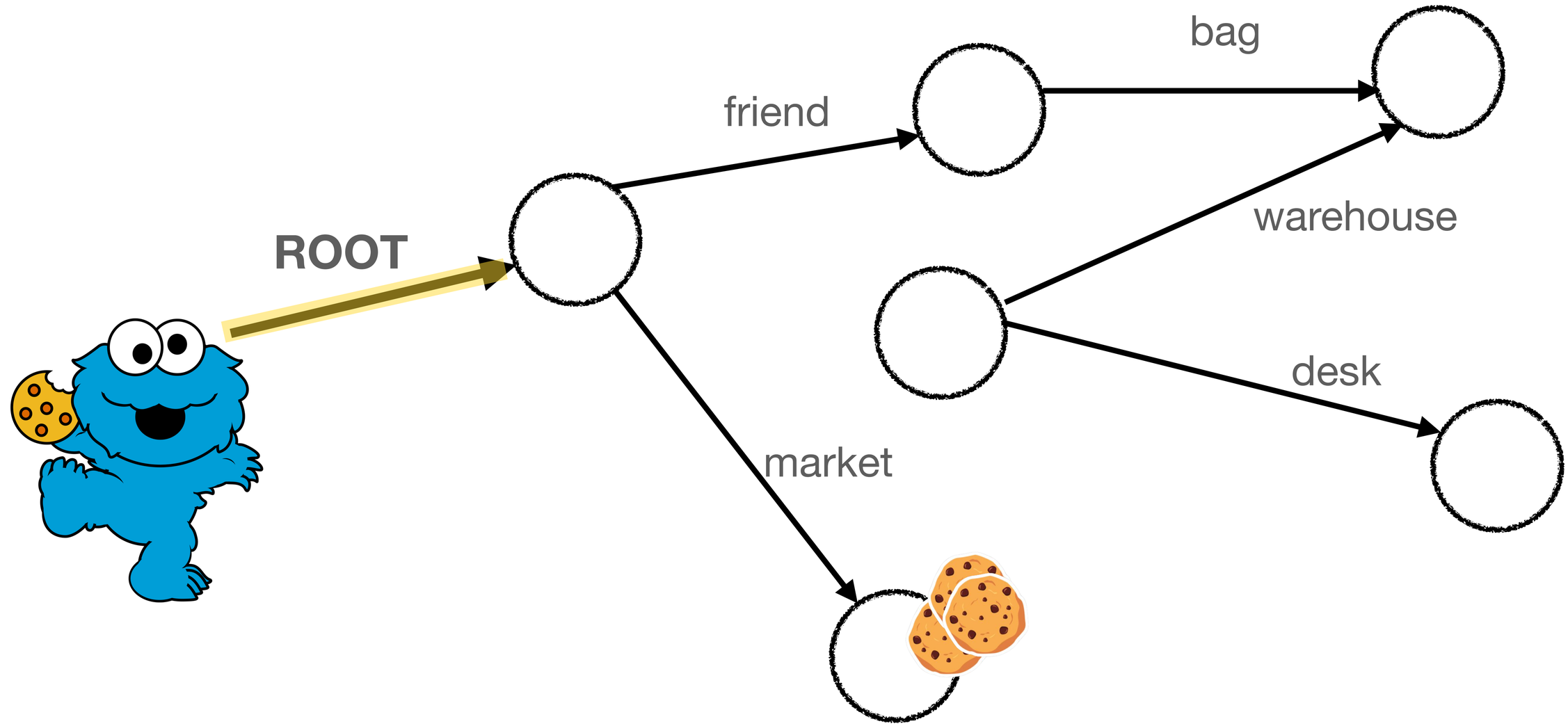
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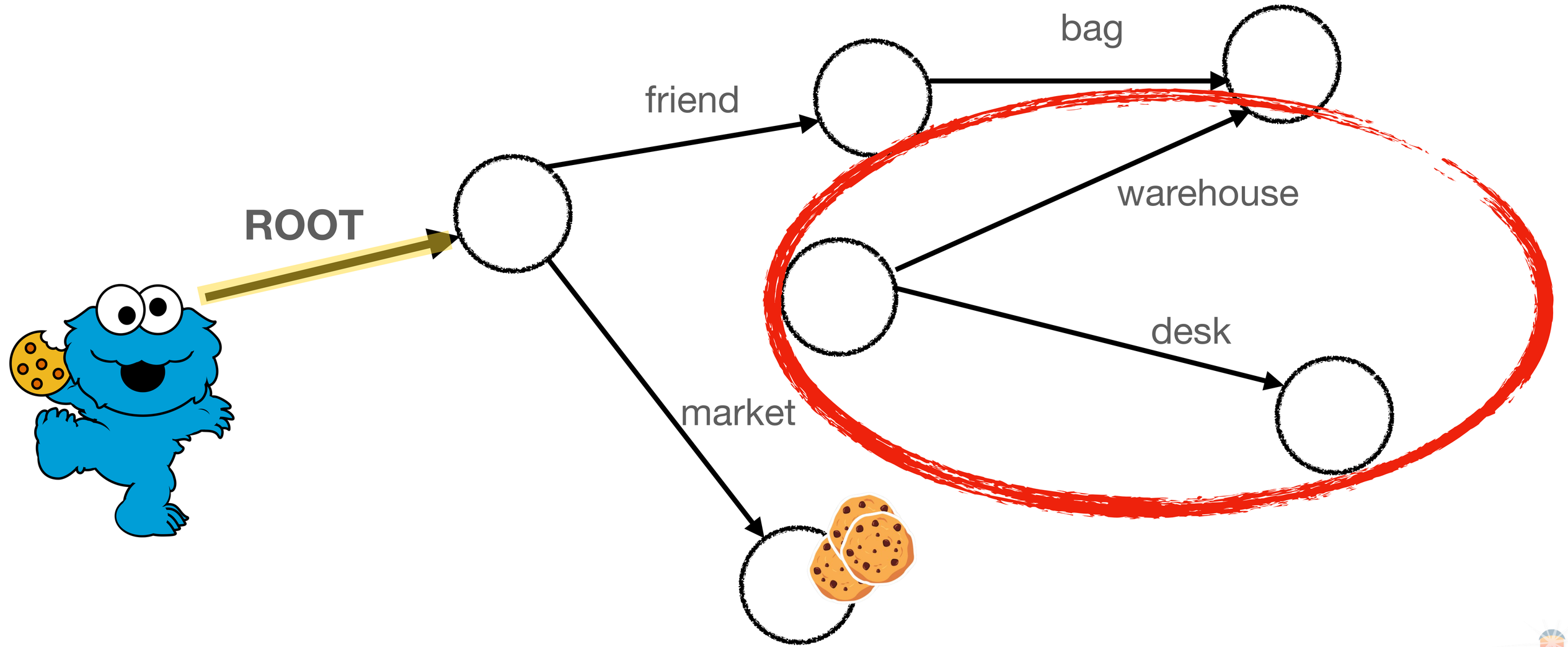
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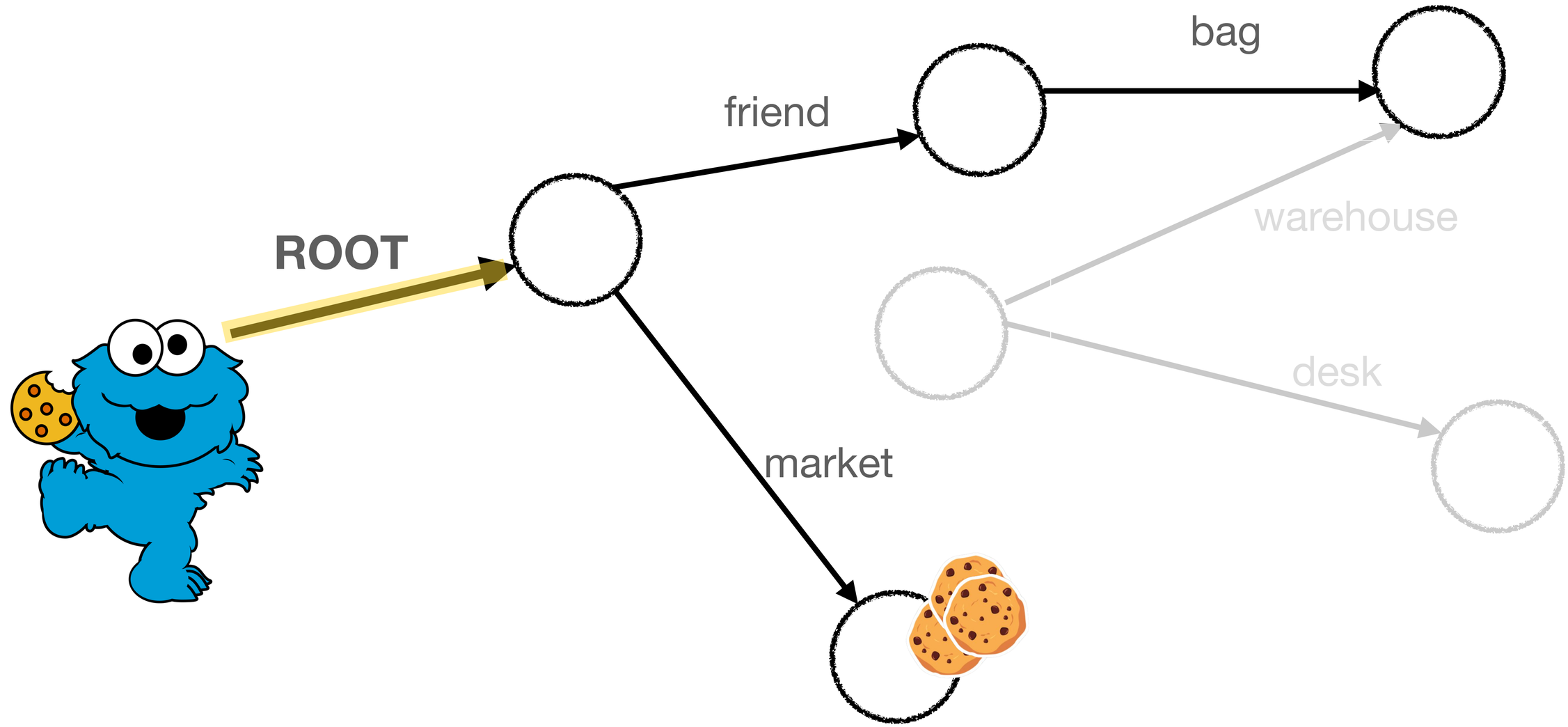
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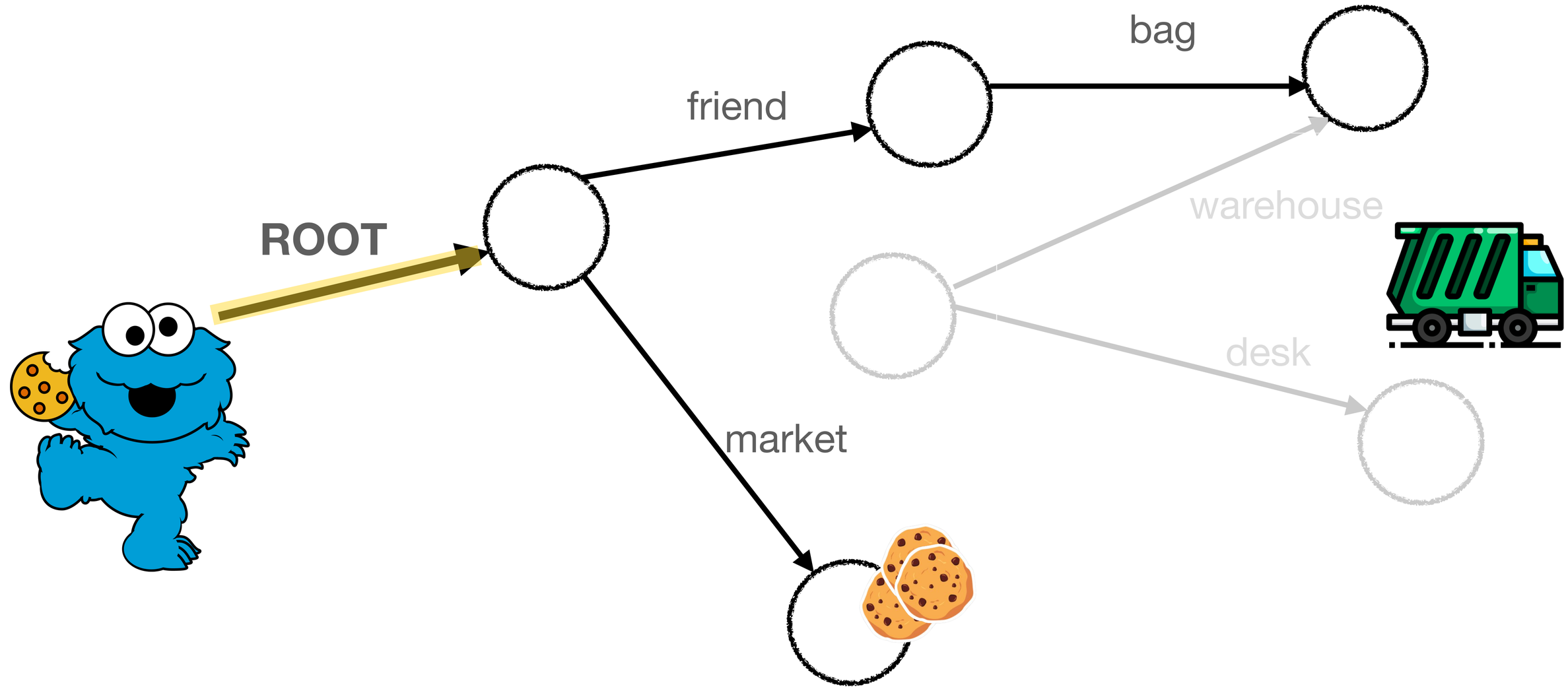
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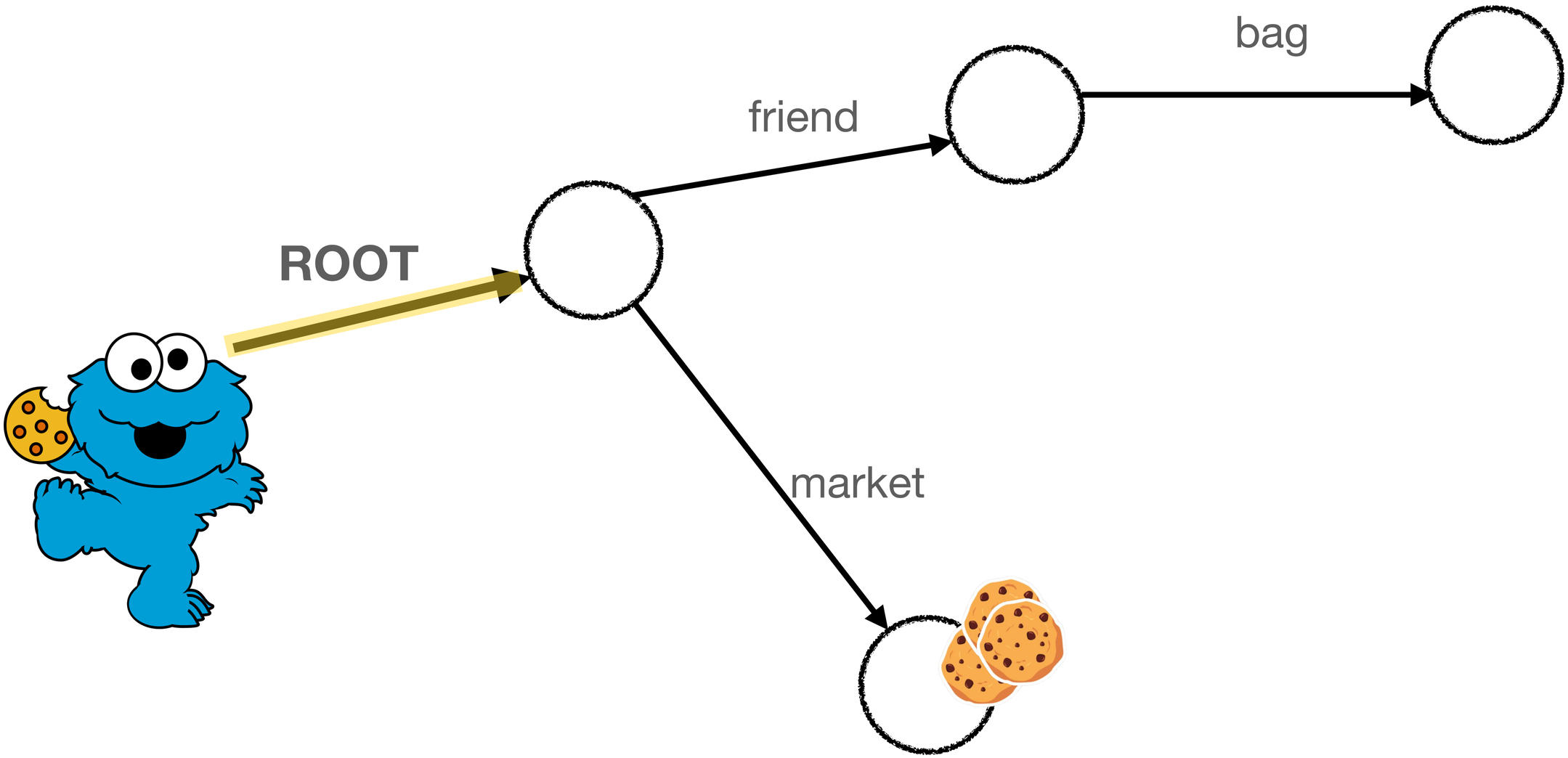
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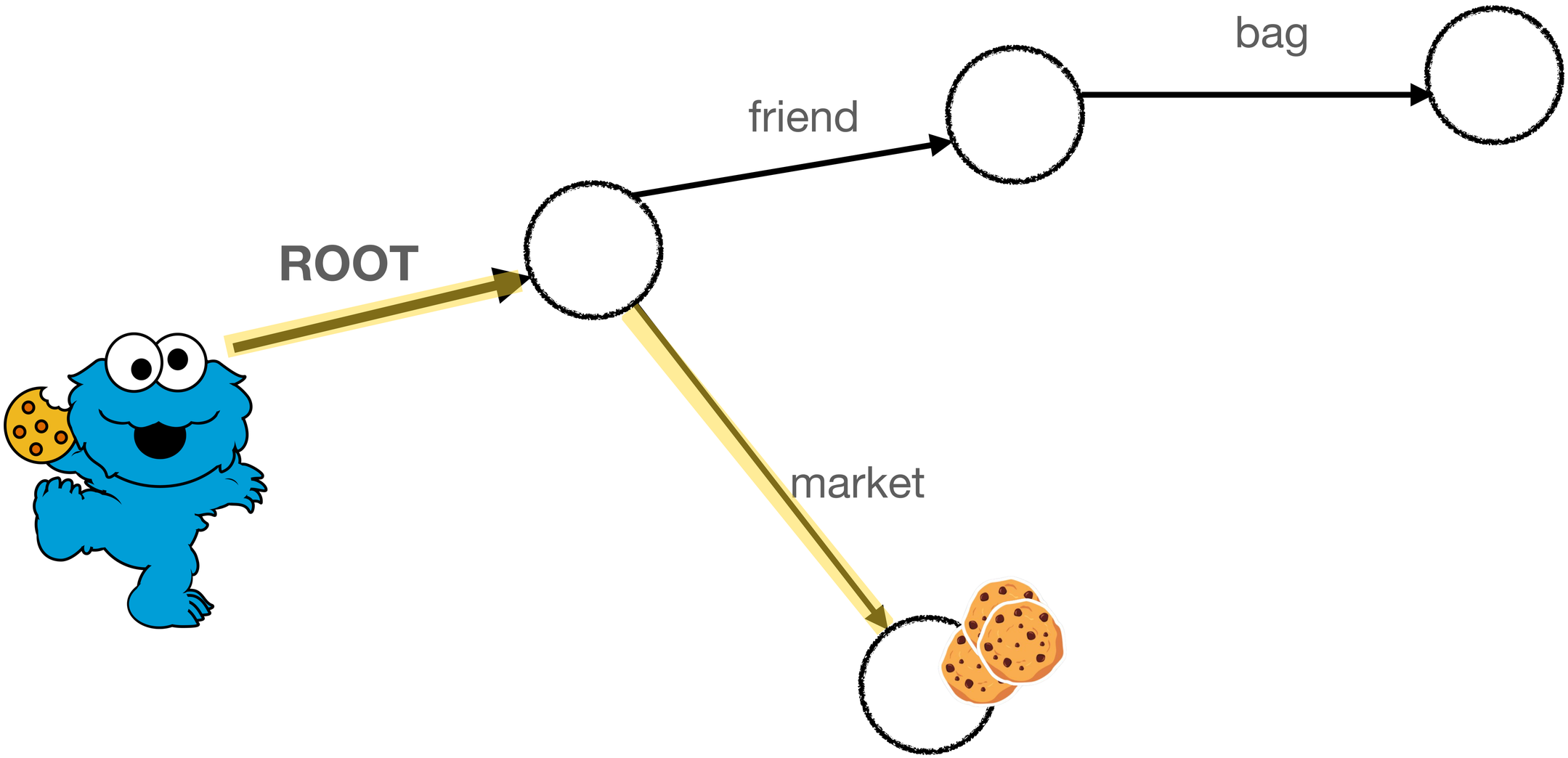
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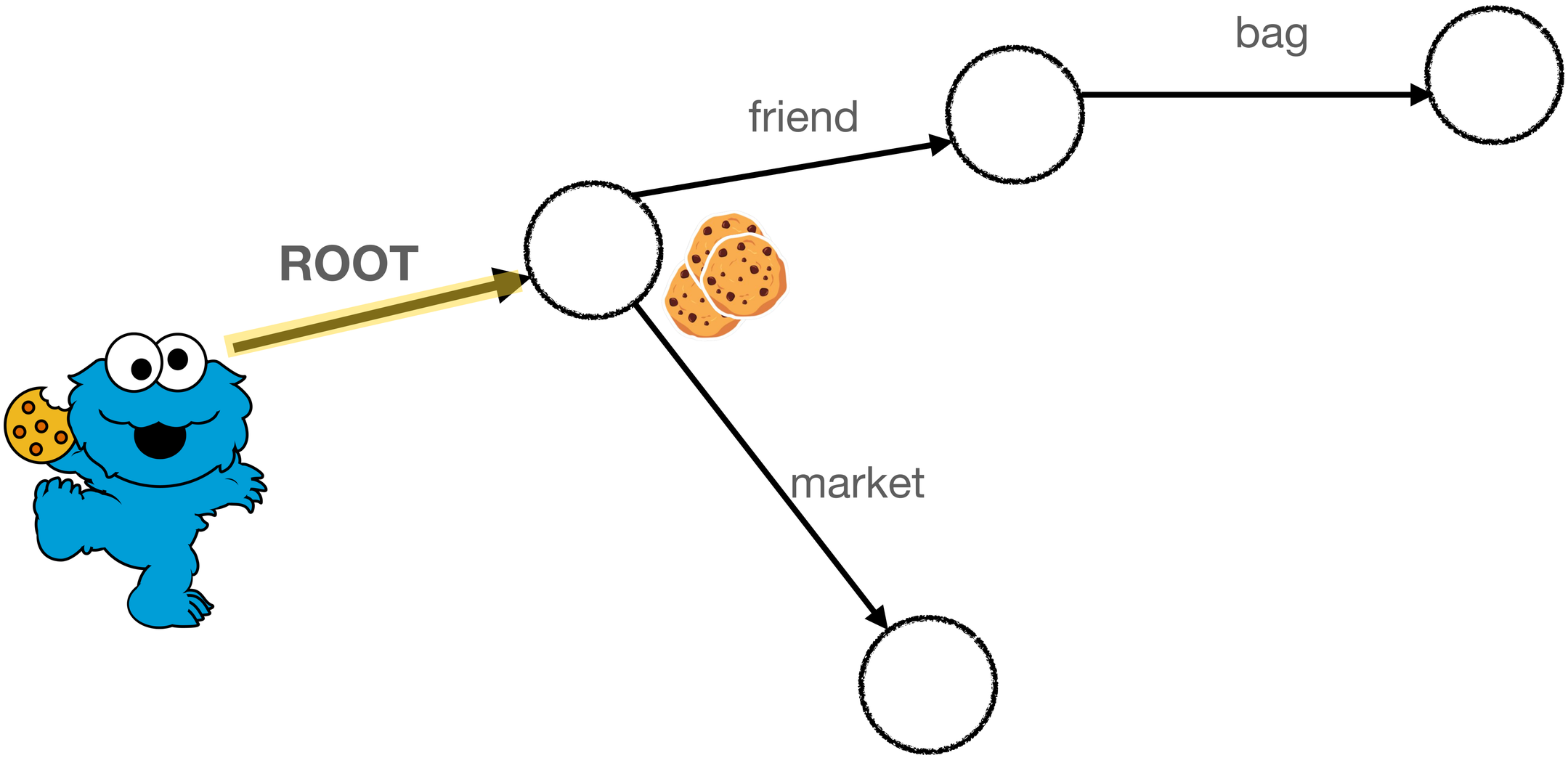
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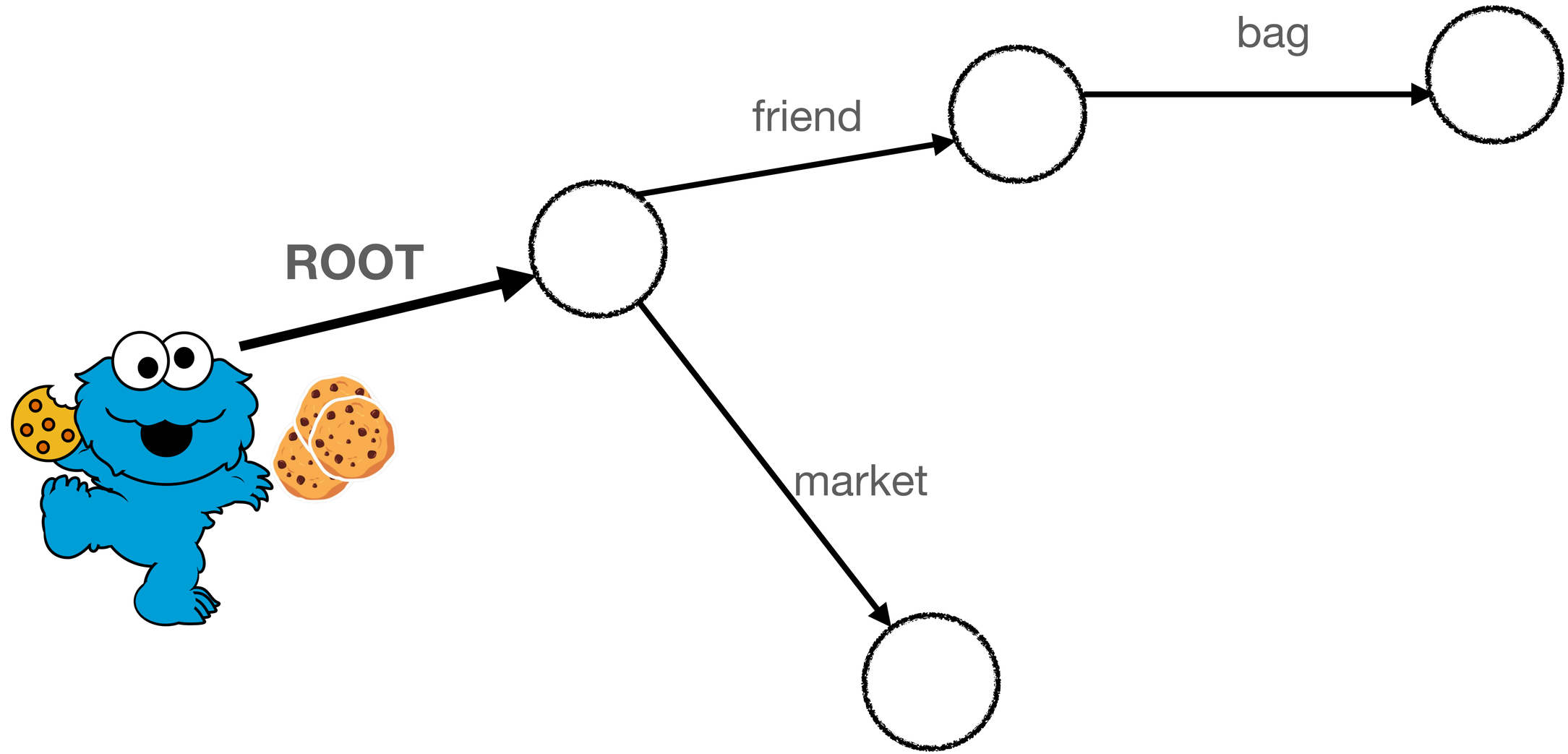
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Time to code

Pharo

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