

Experiment 'P_2_4_5_distance' Results

December 18, 2025

Experiment outcome: SUCCESS

Bad responses: 0

Responses containing assume : 0

Resolution attempts: 1

Hard fails (resolution): 0

Soft fails (resolution): 0

Verification attempts: 1

Problem Specification

Problem name: P_2_4_5_distance

Natural language statement: Write a method that takes two integers and then returns the distance (absolute value of the difference).

Method signature: distance(x: int, y: int) returns (result:int)

Ensures

- `result >= 0`
- `if x >= y then result == x - y else result == y - x`

GenAI interactions

Below you will find all interactions between the ‘user’ (program) and the ‘assistant’ (OpenAI).

Program → GenAI

You are given the following task to perform in Dafny:

Write a method that takes two integers and then returns the distance (absolute value of
→ the difference).

The signature should be:

```
method distance(x: int, y: int) returns (result:int)
```

The method should respect the following contract:

```
ensures result >= 0, ensures if x >= y then result == x - y else result == y - x
```

Produce and show only the Dafny body of this method, including the curly braces that
→ surround it. Do not show the signature nor contract. You must not use 'assume'
→ anywhere in your code.

GenAI → Program

System fingerprint:

ID: chatcmpl-Co4PFsClCBUnodP9wSb6MJKO7eXeN

Model: gpt-5.1-chat-latest

Created at: 1766049373

Finish reason: stop

Usage: 286 tokens in, and 115 tokens out

```
{
  if x >= y {
    result := x - y;
  } else {
    result := y - x;
  }
}
```

Final Program

```
method distance(x: int, y: int) returns (result:int)
  ensures result >= 0
  ensures if x >= y then result == x - y else result == y - x
{
  if x >= y {
    result := x - y;
  } else {
    result := y - x;
  }
}
```

```
}  
}
```

Total Token Usage

Input tokens: 286

Output tokens: 115

Reasoning tokens: 64

Sum of ‘total tokens’: 401

Experiment Timings

Overall Experiment started at 1766049375725, ended at 1766049379008, lasting 3283ms (3.28 seconds)

Iteration #1 started at 1766049375725, ended at 1766049379008, lasting 3283ms (3.28 seconds)