

Experiment ‘P_3_8_TwoPairs’ 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_3_8_TwoPairs

Natural language statement: Write a method that takes four integers and returns "two pairs" if the input consists of two matching pairs (in some order) and "not two pairs" otherwise.

Method signature: P_3_8_TwoPairs (i:int, j: int, k: int, l: int) returns (s: string)

Ensures

- if (i==j && k==l) || (i==k && j==l) || (i==l && j==k) then s == "two pairs" else s == "not two pairs"

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 four integers and returns "two pairs" if the input consists of
→ two matching pairs (in some order) and "not two pairs" otherwise.

The signature should be:

```
method P_3_8_TwoPairs (i:int, j: int, k: int, l: int) returns (s: string)
```

The method should respect the following contract:

```
ensures if (i==j && k==l) || (i==k && j==l) || (i==l && j==k) then s == "two pairs" else  
→ s == "not two pairs"
```

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-Co4StP0ZTe6uuwSTIEfW3mHTydDps

Model: gpt-5.1-chat-latest

Created at: 1766049599

Finish reason: stop

Usage: 392 tokens in, and 80 tokens out

```
{  
  if ((i == j && k == l) || (i == k && j == l) || (i == l && j == k)) {  
    s := "two pairs";  
  } else {  
    s := "not two pairs";  
  }  
}
```

Final Program

```
method P_3_8_TwoPairs (i:int, j: int, k: int, l: int) returns (s: string)  
  ensures if (i==j && k==l) || (i==k && j==l) || (i==l && j==k) then s == "two pairs"  
  → " else s == "not two pairs"  
{  
  if ((i == j && k == l) || (i == k && j == l) || (i == l && j == k)) {  
    s := "two pairs";  
  } else {
```

```
s := "not two pairs";  
}  
}
```

Total Token Usage

Input tokens: 392

Output tokens: 80

Reasoning tokens: 0

Sum of ‘total tokens’: 472

Experiment Timings

Overall Experiment started at 1766049601160, ended at 1766049603979, lasting 2819ms (2.82 seconds)

Iteration #1 started at 1766049601161, ended at 1766049603979, lasting 2818ms (2.82 seconds)