

# 1 main — MIR Walkthrough

**Purpose:** TODO: Describe why this walkthrough exists

## 1.1 Source Context

```
fn main() {  
    let tup:(i32, i32) = (42, 99);  
  
    assert!(tup.0 != tup.1);  
}
```

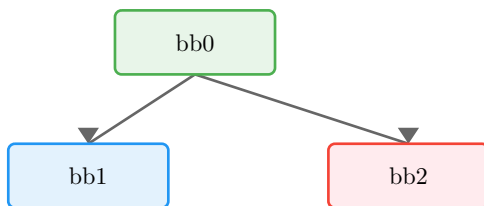
## 1.2 Function Overview

- **Function:** main
- **Basic blocks:** 3
- **Return type:** ()
- **Notable properties:**
  - Contains panic path
  - Has conditional branches

## 1.3 Locals

Local	Type	Notes
0	()	Return place
1	(i32, i32)	
2	bool	
3	i32	
4	i32	
5	!	

## 1.4 Control-Flow Overview



## 1.5 Basic Blocks

### 1.5.1 bb0 — entry

*Entry point of the function.*

MIR	Annotation
<code>_1 = Tuple(42, 99)</code>	Construct aggregate
<code>_3 = _1.0</code>	Copy value
<code>_4 = _1.1</code>	Copy value
<code>_2 = move _3 != move _4</code>	Not equal operation
<code>→ switch(move _2) [0→bb2; else→bb1]</code>	Branch on move _2

### 1.5.2 bb1 — return / success

*Normal return path.*

MIR	Annotation
→ return	Return from function

### 1.5.3 bb2 — panic path

*Panic/diverging path.*

MIR	Annotation
→ _5 = panic([16 bytes])	Call panic

## 1.6 Key Observations

TODO: Add bullet points summarizing what this MIR teaches

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## 1.7 Takeaways

TODO: One or two sentences to generalize this example

