1 `main` — MIR Walkthrough

Purpose: TODO: Describe why this walkthrough exists

1.1 Source Context

```
fn main() {
    let a = [1, 2, 3, 4];

    let b = &a[1..3];

    assert!(b == [2, 3]);
}
```

1.2 Function Overview

- **Function:** `main`
- **Basic blocks:** 5
- **Return type:** `() (0 bytes, align 1)`
- **Notable properties:**
  - Contains panic path
  - Introduces borrows
  - Has conditional branches

1.3 Locals

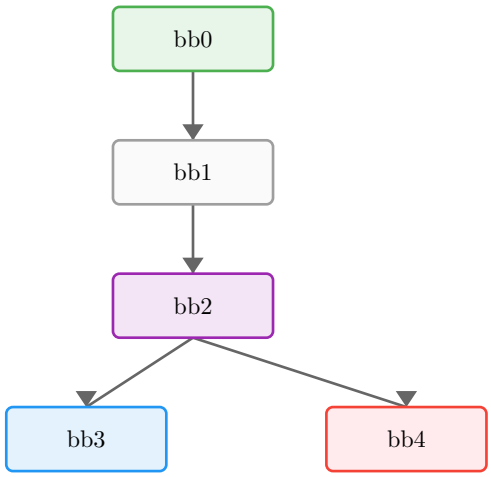
Local	Type	Notes
0	`() (0 bytes, align 1)`	Return place
1	`[i32; 4] (16 bytes, align 4)`	
2	`&[i32] (16 bytes, align 8)`	
3	`&[i32] (16 bytes, align 8)`	
4	`&[i32; 4] (8 bytes, align 8)`	
5	`std::ops::Range<usize> (16 bytes, align 8)`	
6	`Bool`	
7	`&&[i32] (8 bytes, align 8)`	
8	`&[i32; 2] (8 bytes, align 8)`	
9	`()`	

1.4 Borrows

#	Borrow	Kind	Created At	Borrowed
0	_4	&	bb0[1]	_1
1	_7	&	bb1[1]	_2

Borrows are tracked conservatively: active from creation until reassignment or scope end.

1.5 Control-Flow Overview



1.6 Basic Blocks

1.6.1 bb0 — entry

Entry point of the function.

MIR	Annotation
`_1 = Array(1, 2, 3, 4)`	Construct aggregate
`_4 = &_1`	Shared borrow
`_5 = Range(1, 3)`	Construct aggregate
`→ _3 = index(move _4, move _5) → bb1`	Call index

1.6.2 bb1

MIR	Annotation
`_2 = _3`	Copy value
`_7 = &_2`	Shared borrow
`_8 = 0`	Load constant
`→ _6 = eq(move _7, move _8) → bb2`	Call eq

1.6.3 bb2 — branch point

MIR	Annotation
`→ switch(move _6) [0→bb4; else→bb3]`	Branch on move _6

1.6.4 bb3 — return / success

Normal return path.

MIR	Annotation
`→ return`	Return from function

1.6.5 bb4 — panic path

Panic/diverging path.

MIR	Annotation
`→ _9 = panic([16 bytes])`	Call panic

1.7 Key Observations

TODO: Add bullet points summarizing what this MIR teaches

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1.8 Takeaways

TODO: One or two sentences to generalize this example