

# 1 main — MIR Walkthrough

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

## 1.1 Source Context

```
let b:u32 = 4294967294 + 1;  
assert!(a == b)  
}
```

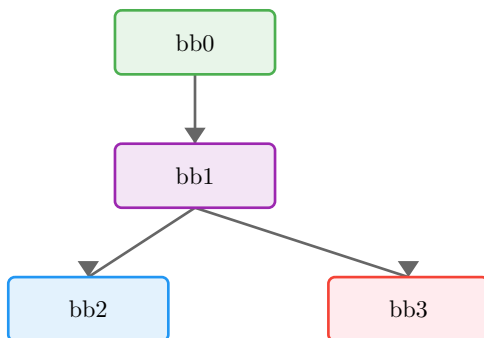
## 1.2 Function Overview

- **Function:** main
- **Basic blocks:** 4
- **Return type:** ()
- **Notable properties:**
  - Contains panic path
  - Uses checked arithmetic
  - Contains assertions
  - Has conditional branches

## 1.3 Locals

| Local | Type        | Notes        |
|-------|-------------|--------------|
| 0     | ()          | Return place |
| 1     | u32         |              |
| 2     | (u32, bool) |              |
| 3     | bool        |              |
| 4     | u32         |              |
| 5     | !           |              |

## 1.4 Control-Flow Overview



## 1.5 Basic Blocks

### 1.5.1 bb0 — entry

*Entry point of the function.*

| MIR   | Annotation                 |
|---|----------------------------|
| <code>_2 = checked(-2 + 1)</code>               | Checked Add (may panic)    |
| <code>→ assert(move _2.1 == false) → bb1</code> | Panic if move _2.1 is true |

### 1.5.2 bb1 — branch point

| MIR  | Annotation        |
|--|-------------------|
| <code>_1 = move _2.0</code>                      | Move value        |
| <code>_4 = -1</code>                             | Load constant     |
| <code>_3 = move _4 == _1</code>                  | Equal operation   |
| <code>→ switch(move _3) [0→bb3; else→bb2]</code> | Branch on move _3 |

### 1.5.3 bb2 — return / success

*Normal return path.*

| MIR                   | Annotation           |
|-----------------------|----------------------|
| <code>→ return</code> | Return from function |

### 1.5.4 bb3 — panic path

*Panic/diverging path.*

| MIR                                   | Annotation |
|---------------------------------------|------------|
| <code>→ _5 = panic([16 bytes])</code> | Call panic |

## 1.6 Key Observations

TODO: Add bullet points summarizing what this MIR teaches

- 
- 

## 1.7 Takeaways

TODO: One or two sentences to generalize this example

