Instructions:

1. Fill in the reasoning table for Do_Nothing.
2. Use the reasoning table to generate the verification conditions VC0, VC1, VC2
3. Prove VC0, VC1, and VC2

# Reasoning Table for Do_Nothing_Realiz for Integer_Template

```
Operation Do_Nothing(i: Integer);
   requires i + 1 <= max_int;
   ensures i = #i;
```

| State | Code | Assume | Confirm |
|---|---|---|---|
| 0 | | *Precondition for Do_Nothing* | |
| | `Increment(i)` | | |
| 1 | | | |
| | `Decrement(i)` | | |
| 2 | | | *Postcondition for Do_Nothing* |

Reference:

| | | |
|---|---|---|
| `Operation Increment(i: Integer);`<br>`  requires i + 1 <= max_int;`<br>`  ensures i = #i + 1;` | `Operation Decrement(i: Integer);`<br>`  requires min_int <= i - 1;`<br>`  ensures i = #i - 1;` | `Constraint from Integer_Template`<br>`  min_int <= i <= max_int` |

VCs for States 0, 1, and 2:
VC0:
VC1:
VC2:

Proof for VC0, VC1, and VC2
VC0:

VC1:

VC2: