Inference at $*$ 1 0
of proof for Lemma eq_int_cases_test:

1. A : Type
2. x : A
3. y : A
4. P : $A \rightarrow \mathbb{P}$
5. i : $\mathbb{Z}$
6. j : $\mathbb{Z}$
7. P(if ($i =_0 j$) then x else y fi)

$\vdash$ P(if ($i =_0 j$) then x else y fi)

```
  by (%S%
\p.
  let UA = get_term_arg ‘UA‘ p
  inlet A = get_term_arg ‘A‘ p

    in let e = get_term_arg ‘e‘ p
  in let x = get_term_arg ‘x‘ p
  in
   AssertL

        [mk_member_term UA A
      ;mk_member_term A e
      ;mk_all_term (dv x) A (
  mk_member_term
                        UA (mk_equal_term A e x))
      ]
    p)
```

1: . . . . .assertion. . . . . NILNIL

$\vdash$ $\mathbb{B} \in$ Type

2: . . . . .assertion. . . . . NILNIL

8. $\mathbb{B} \in$ Type

$\vdash$ $(i =_0 j) \in \mathbb{B}$

3: . . . . .assertion. . . . . NILNIL

8. $\mathbb{B} \in$ Type
9. $(i =_0 j) \in \mathbb{B}$

$\vdash$ $\forall bb{:}\mathbb{B}.\ ((i =_0 j) = bb) \in$ Type

4:

8. $\mathbb{B} \in$ Type

9. $(i =_0 j) \in \mathbb{B}$
10. $\forall bb{:}\mathbb{B}.\ ((i =_0 j) = bb) \in \text{Type}$
$\vdash P(\text{if } (i =_0 j) \text{ then } x \text{ else } y \text{ fi })$

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http://www.nuprl.org/FDLcontent/p0_359040_/p121_87873_{eq_int_cases_test}1_0.html