Inference at * 1 0 4
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)
8. $\mathbb{B} \in$ Type
9. $(i =_0 j) \in \mathbb{B}$
10. $\forall bb{:}\mathbb{B}.\ ((i =_0 j) = bb) \in$ Type

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

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 by (\p.
 let i = get_int_arg ‘i‘ p
 inlet x = get_term_arg ‘x‘ p

   in let e = get_term_arg ‘e‘ p
 in let A = get_term_arg ‘A‘ p
 in
   AssertAtHyp

      i
     (mk_exists_term (dv x) A (mk_equal_term A e x))
     p)
```

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

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

2:

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

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

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