

```

┆ ∀[T:Type]. ∀[P:T → ℙ]. ∀[C:ℙ]. ((∃x:T. ((P x) ∨ C)) ⇒ ((∃x:T. (P x)) ∨ C))
|
BY RepeatFor 3 ((UD· THENA Auto))
|
[1]. T: Type
[2]. P: T → ℙ
[3]. C: ℙ
┆ (∃x:T. ((P x) ∨ C)) ⇒ ((∃x:T. (P x)) ∨ C)
|
BY (D 0 THENA Auto)
|
4. ∃x:T. ((P x) ∨ C)
┆ (∃x:T. (P x)) ∨ C
|
BY D 4
|
4. x: T
5. (P x) ∨ C
┆ (∃x:T. (P x)) ∨ C
|
BY D 5
| \
| 5. P x
| ┆ (∃x:T. (P x)) ∨ C
| |
1 BY (OrLeft THENA Auto)
| |
| ┆ ∃x:T. (P x)
| |
1 BY (InstConcl [x]). THENA Auto)
| |
| ┆ P x
| |
1 BY NthHyp 5
| \
| 5. C
| ┆ (∃x:T. (P x)) ∨ C
|
BY (OrRight THENA Auto)
|
┆ C
|
BY NthHyp 5

```

Extract:

```

λf.let x,g = f in case g of
  inl(p) => inl <x, p>
| inr(c) => inr c

where f : ∃x:T. ((P x) ∨ C)
      g : (P x) ∨ C
      p : P x
      c : C

```