

## combine-ecl-tuples2<sup>0,22</sup>

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combine-ecl-tuples2(A;B;f;g)
≡def let Ta,ksa,ia,ga,ha,aa,ea = A in
      let Tb,ksb,ib,gb,hb,ab,eb = B in
      ⟨(Ta × Tb × (ℕ+Unit))
      , (ksa @ ksb)
      , ⟨ia, ib, inr(·)⟩
      , (λk',s,v,x. let sa = if deq-member(KindDeq;k';ksa)→ ga(k',s,v,1of(x))
                    else 1of(x) fi in
          let sb = if deq-member(KindDeq;k';ksb)→ gb(k',s,v,1of(2of(x)))
                    else 1of(2of(x)) fi in
          ⟨sa, sb, combine-halt-info(ea;eb;λm.ha(m,sa);λm.hb(m,sb);2of(2of(x)))⟩)
      , (λn,x. f(2of(2of(x)),λm.ha(m,1of(x)),λm.hb(m,1of(2of(x))),n))
      , (λn,k',s,v,x. g
          (ha(0,1of(x))
          ,hb(0,1of(2of(x)))
          ,reduce(λm,b. ha(m,1of(x)) ∨2 b;false2;ea)
          ,reduce(λm,b. hb(m,1of(2of(x))) ∨2 b;false2;eb)
          ,if deq-member(KindDeq;k';ksa)→ aa(n,k',s,v,1of(x)) else false2 fi
          ,if deq-member(KindDeq;k';ksb)→ ab(n,k',s,v,1of(2of(x)))
          else false2 fi)
      , merge(ea;eb)⟩
```