## Modal Relational Type Theory in Isabelle/HOL

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## References

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proof (prove)
goal (1 subgoal):
 1. (case case case (case case (daT,case daT,deT,daT,daT of
P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E,
                                          daT, case daT, deT, daT, daT of
                                 )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
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                                      | (P , F ) (w. w = w)F | (P , _) dioE
                                      | (F, P) (w. w = w)F
                                      \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                      | (_, b) dioE of
                                 P x (w. x. case case (xT,case daT,deT,daT,daT of
              P \times (x. case daT,xT,daT,daT of P)T | _ (x. dio)E,
         xT, case daT, deT, daT, daT of P x (x. case daT, xT, daT, daT of P )T
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P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E) of

(P , P ) (w. w = w)P

| (P , F ) (w. w = w)F | (P , _) dioE

| (F , P ) (w. w = w)F
                                      \mid (F , F ) (w. w = w)F \mid (F , _) dioE
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                                 P x (w. x. case case (xT,case daT,daT,deT,daT of
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    | _ (x. dio)E) of
(P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
    | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
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    | (_, b) dioE of
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    | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE

| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
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xaT,case daT,daT,deT,xT of

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                         P xb (xaa. case daT,xaaT,xT,xaT of P )T
                         | _ (x. dio)E) of
             (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , \_) dioE
             | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
             | (_, b)  dioE of
        P vh
          (w. xaa. case case (xaaT, case daT, deT, xT, xaT of
                                     P xb (xaa. case daT,xaaT,xT,xaT of P
                                      | _ (x. dio)E,
                               xaaT,case daT,deT,xT,xaT of
                                      P xb (xaa. case daT,xaaT,xT,xaT of P
                                      | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                          | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                          w)P
        | F xb
            (w. xaa. case case (xaaT,case daT,deT,xT,xaT of
                                        P xb (xaa. case daT,xaaT,xT,xaT of P
                                        | _ (x. dio)E,
                                 xaaT,case daT,deT,xT,xaT of
                                        P xb (xaa. case daT,xaaT,xT,xaT of P
                                        | _ (x. dio)E) of
                            (P, P) (w. w = w)P | (P, F) (w. w = w)F
                            | \ (P \ , \ \_) \ dioE \ | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \\ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE \ | \ (\_, \ b) \ dioE \ of 
                           w)F
        | _ dioE)
     (case case (daT,case daT,xT,deT,xaT of
                        P xb (xaa. case daT,xT,xaaT,xaT of P )T | \_ (x. dio)E,
                   daT, case daT, xT, deT, xaT of
                        P xb (xaa. case daT,xT,xaaT,xaT of P )T
                         | _ (x. dio)E) of
             | (_, b) dioE of
          (w. xaa. case case (xaaT,case daT,xT,deT,xaT of
                                      P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                      | _ (x. dio)E,
                                xaaT,case daT,xT,deT,xaT of
                                      P xb (xaa. case daT,xT,xaaT,xaT of P
                                      | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F
                          | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
```

P xb (xaa. case daT,xT,xaaT,xaT of P )T

w)P

(w. xaa. case case (xaaT, case daT, xT, deT, xaT of

| F xb

```
| _ (x. dio)E,
                                     xaaT,case daT,xT,deT,xaT of
                                            P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                            | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                              w)F
       | _ dioE)
   (case case (daT,case daT,xT,xaT,deT of
                          P xb (xaa. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                    daT,case daT,xT,xaT,deT of
                          P xb (xaa. case daT,xT,xaT,xaaT of P )T
                          | _ (x. dio)E) of
             (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
             | (_, b) dioE of
       P xb
          (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                          P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case daT,xT,xaT,deT of
                                          P xb (xaa. case daT,xT,xaT,xaaT of P
                                          | _ (x. dio)E) of
                            (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                            w)P
       | F xb
            (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                            P xb (xaa. case daT,xT,xaT,xaaT of P
                                            | _ (x. dio)E,
                                     xaaT,case daT,xT,xaT,deT of
                                            P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                            | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                              w)F
       | _ dioE) of
   w)P
                                             | F xa
                                                 (w. xa.
case (case case (daT,case daT,deT,xT,xaT of
                            P xb (xaa. case daT,xaaT,xT,xaT of P )T | _ (x. dio)E,
                      daT, case daT, deT, xT, xaT of
                            P xb (xaa. case daT,xaaT,xT,xaT of P )T
                            | _ (x. dio)E) of
               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
               | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
               | (_, b)  dioE of
          P xb
            (w. xaa. case case (xaaT, case daT, deT, xT, xaT of
                                            P xb (xaa. case daT,xaaT,xT,xaT of P
                                            | _ (x. dio)E,
                                     xaaT,case daT,deT,xT,xaT of
                                            P xb (xaa. case daT,xaaT,xT,xaT of P
                               | \  \  | \  \  (x. \ dio)E) \ of \\ (P \ , \ P \ ) \  \  (w. \ w = \ w)P \ | \  (P \ , \ F \ ) \  \  (w. \ w = \ w)F 
                              | (P, \_) \text{ dioE} | (F, P) (w. w = w)F
                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE \mid (_, b) dioE of
                              w)P
          | F xb
              (w. xaa. case case (xaaT, case daT, deT, xT, xaT of
                                               P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                               | _ (x. dio)E,
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xaaT,case daT,deT,xT,xaT of
                                     P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                     | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                        | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                        | (_, b) dioE of
                       w)F
   | _ dioE)
(case case (daT,case daT,xT,deT,xaT of
                    P xb (xaa. case daT,xT,xaaT,xaT of P )T | _ (x. dio)E,
               daT,case daT,xT,deT,xaT of
                     P xb (xaa. case daT,xT,xaaT,xaT of P )T
                     | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
         | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
         | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT,case daT,xT,deT,xaT of
                                   P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                   | _ (x. dio)E,
                            xaaT,case daT,xT,deT,xaT of
                                  P xb (xaa. case daT,xT,xaaT,xaT of P
                                   | _ (x. dio)E) of
                      (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      w)P
   | F xb
        (w. xaa. case case (xaaT,case daT,xT,deT,xaT of
                                    P xb (xaa. case daT,xT,xaaT,xaT of P
                                     | _ (x. dio)E,
                              xaaT,case daT,xT,deT,xaT of
                                     P xb (xaa. case daT,xT,xaaT,xaT of P
                                     | _ (x. dio)E) of
                        (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                        | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                        | (_, b) dioE of
                       w)F
   | _ dioE)
(case case (daT,case daT,xT,xaT,deT of
                    P xb (xaa. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
               daT,case daT,xT,xaT,deT of
                    P xb (xaa. case daT,xT,xaT,xaaT of P )T
                     | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
        | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT, case daT, xT, xaT, deT of
                                   P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                   | _ (x. dio)E,
                            xaaT,case daT,xT,xaT,deT of
                                  P xb (xaa. case daT,xT,xaT,xaaT of P
                                   | _ (x. dio)E) of
                      (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                      | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                      w)P
   | F xb
        (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                    P xb (xaa. case daT,xT,xaT,xaaT of P
                                     | _ (x. dio)E,
                              xaaT,case daT,xT,xaT,deT of
                                     P xb (xaa. case daT,xT,xaT,xaaT of P )T
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| _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                             w)F
         | _ dioE) of
                                         | _ dioE of
                                   Р
                                        w)P
                   | F x (w. x. case case (case case (daT,case daT,deT,xT,daT of
                P xa (xa. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
           daT, case daT, deT, xT, daT of P xa (xa. case daT, xaT, xT, daT of P )T
                | _ (x. dio)E) of
     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
     | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
     | (_, b) dioE of
P xa
  (w. xa. case case (xaT,case daT,deT,xT,daT of
                            P xa (xa. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
                       xaT, case daT, deT, xT, daT of
                            P xa (xa. case daT,xaT,xT,daT of P )T
                            | _ (x. dio)E) of
                 (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
                 | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                 \mid \ (F \ , \ \_) \quad \text{dioE} \ \mid \ (\_, \ b) \quad \text{dioE of}
                 w)P
| F xa
    (w. xa. case case (xaT, case daT, deT, xT, daT of
                              P xa (xa. case daT,xaT,xT,daT of P )T
                               | _ (x. dio)E,
                         xaT,case daT,deT,xT,daT of
                              P xa (xa. case daT,xaT,xT,daT of P )T
                               | _ (x. dio)E) of
                   (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                   w)F
| _ dioE)
                                                (case case (daT,case daT,xT,deT,daT of
                P xa (xa. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
           daT,case daT,xT,deT,daT of P xa (xa. case daT,xT,xaT,daT of P
                |  (x. dio)E) of
     (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
    | (_, b) dioE of
  (w. xa. case case (xaT,case daT,xT,deT,daT of
                            P xa (xa. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
                       xaT, case daT, xT, deT, daT of
                            P xa (xa. case daT,xT,xaT,daT of P )T
                            | _ (x. dio)E) of
                 (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
                 | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                 | (F , _) dioE | (_, b) dioE of
                w)P
| F xa
    (w. xa. case case (xaT, case daT, xT, deT, daT of
                              P xa (xa. case daT,xT,xaT,daT of P )T
                               | _ (x. dio)E,
                         xaT,case daT,xT,deT,daT of
                              P xa (xa. case daT,xT,xaT,daT of P )T
                               | _{-} (x. dio)E) of
                   (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
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F w)F
| _ dioE)
                                                  (case case (daT,case daT,xT,daT,deT of
                 P xa (xa. case daT,xT,daT,xaT of P )T | _ (x. dio)E,
           daT, case daT, xT, daT, deT of P xa (xa. case daT, xT, daT, xaT of P
                  | _ (x. dio)E) of
     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
P xa
  (w. xa. case case (xaT,case daT,xT,daT,deT of
                             P xa (xa. case daT,xT,daT,xaT of P )T | _ (x. dio)E,
                        xaT,case daT,xT,daT,deT of
                              P xa (xa. case daT,xT,daT,xaT of P )T
                              | _ (x. dio)E) of
                  (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
                  | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                  w)P
| F xa
    (w. xa. case case (xaT,case daT,xT,daT,deT of
                                P xa (xa. case daT,xT,daT,xaT of P )T
                                | _ (x. dio)E,
                          xaT,case daT,xT,daT,deT of
                                P xa (xa. case daT,xT,daT,xaT of P )T
                    | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                    w)F
| _ dioE) of
                                             P xa
                                                (w. xa.
 case (case case (daT,case daT,deT,xT,xaT of
                            P xb (xaa. case daT,xaaT,xT,xaT of P )T | _ (x. dio)E,
                      daT,case daT,deT,xT,xaT of
                           P xb (xaa. case daT,xaaT,xT,xaT of P )T
                            | _ (x. dio)E) of
                (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
                | (_, b) dioE of
          P xb
            (w. xaa. case case (xaaT,case daT,deT,xT,xaT of
                                           P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                           | _ (x. dio)E,
                                    xaaT,case daT,deT,xT,xaT of
                                          P xb (xaa. case daT,xaaT,xT,xaT of P
                                           | _ (x. dio)E) of
                              (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                             w)P
          | F xb
               (w. xaa. case case (xaaT,case daT,deT,xT,xaT of
                                             P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                             | _ (x. dio)E,
                                      xaaT,case daT,deT,xT,xaT of
                                             P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                             | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
                               w)F
          | _ dioE)
      (case case (daT, case daT, xT, deT, xaT of
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P xb (xaa. case daT,xT,xaaT,xaT of P )T \mid _ (x. dio)E,
                  daT, case daT, xT, deT, xaT of
                        P xb (xaa. case daT,xT,xaaT,xaT of P )T
                        | _ (x. dio)E) of
            (P \ , \ P \ ) \quad (w. \quad w \ = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \quad w \ = \ w)F \ | \ (P \ , \ \_) \quad dioE
            | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
            | (_, b) dioE of
        (w. xaa. case case (xaaT,case daT,xT,deT,xaT of
                                      P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,xT,deT,xaT of
                                      P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                      | _ (x. dio)E) of
                         (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                         w)P
      I F xb
           (w. xaa. case case (xaaT,case daT,xT,deT,xaT of
                                         P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                         | _ (x. dio)E,
                                 xaaT,case daT,xT,deT,xaT of
                                        P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                         | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                           \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                           | (_, b) dioE of
                           w)F
      | _ dioE)
  (case case (daT,case daT,xT,xaT,deT of
                        P xb (xaa. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                  daT, case daT, xT, xaT, deT of
                        P xb (xaa. case daT,xT,xaT,xaaT of P )T
                        | _ (x. dio)E) of
            (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
            | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
            | (_, b) dioE of
        (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                      P xb (xaa. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                                xaaT,case daT,xT,xaT,deT of
                                      P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                      | _ (x. dio)E) of
                         (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                         w)P
      | F xb
           (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                         P xb (xaa. case daT,xT,xaT,xaaT of P
                                         | _ (x. dio)E,
                                 xaaT,case daT,xT,xaT,deT of
                                        P xb (xaa. case daT,xT,xaT,xaaT of P
                                         | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                           \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                           | (_, b) dioE of
                           w)F
| _ dioE) of w)P
                                         | F xa
                                             (w.
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xa. case (case case (daT,case daT,deT,xT,xaT of
                                P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                | _ (x. dio)E,
                          daT,case daT,deT,xT,xaT of
                                P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                | _ (x. dio)E) of
                   (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F | (F, F) (w. w = w)F
                    | (F , _) dioE | (_, b) dioE of
                 (w. xaa. case case (xaaT,case daT,deT,xT,xaT of
                                              P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                               | _ (x. dio)E,
                                        xaaT,case daT,deT,xT,xaT of
                                              P xb (xaa. case daT,xaaT,xT,xaT of P
                                               | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                 | (_, b) dioE of
                                 w)P
              I F xb
                  (w. xaa. case case (xaaT, case daT, deT, xT, xaT of
                                                P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                                 | _ (x. dio)E,
                                          xaaT,case daT,deT,xT,xaT of
                                                 P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                                 | _ (x. dio)E) of
                                    (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                   | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                   | (_, b) dioE of
                              F
                                   w)F
              | _ dioE)
          (case case (daT,case daT,xT,deT,xaT of
                                P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                | _ (x. dio)E,
                          daT,case daT,xT,deT,xaT of
                                P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                | _ (x. dio)E) of
                    (P , P) (w. w = w)P | (P , F) (w. w = w)F | (P , _) dioE
                    | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_, b) dioE of
              P xb
                 (w. xaa. case case (xaaT, case daT, xT, deT, xaT of
                                               P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                               | _ (x. dio)E,
                                        xaaT,case daT,xT,deT,xaT of
                                               P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                               | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                                 w)P
              | F xb
                   (w. xaa. case case (xaaT,case daT,xT,deT,xaT of
                                                P xb (xaa. case daT,xT,xaaT,xaT of P )T | _ (x. dio)E,
                                          xaaT,case daT,xT,deT,xaT of
                                                P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                                 | _ (x. dio)E) of
                                    (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                    | (_, b) dioE of
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F w)F
                           | _ dioE)
                    (case case (daT,case daT,xT,xaT,deT of
                                                             P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                                             | _ (x. dio)E,
                                                  daT, case daT, xT, xaT, deT of
                                                             P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                                              | _ (x. dio)E) of
                                      (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                                     | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
                                (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                                                                         P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                                                                         | _ (x. dio)E,
                                                                            xaaT,case daT,xT,xaT,deT of
                                                                                        P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                                                                         | _ (x. dio)E) of
                                                                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                                                | (_, b) dioE of
                                                                w)P
                            | F xb
                                    (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                                                                            P xb (xaa. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                                                                                xaaT,case daT,xT,xaT,deT of
                                                                                            P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                                                                             | _ (x. dio)E) of
                                                                    (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                                                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                                   | (_, b) dioE of
                                                                   w)F
                           | _ dioE) of
                                                                                       | _ dioE of
                                                                                       w)F
                                         | _ dioE)
                                        (case case (daT,case daT,deT,daT,daT of
P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E,
                                                                                          daT,case daT,deT,daT,daT of
                                                                       )T | _ (x. dio)E) of

(P , P ) (w. w = w)P

| (P , F ) (w. w = w)F | (P , _) dioE
P x (x. case daT,xT,daT,daT of P
                                                                                | (F, P) (w. w = w)F
                                                                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                                                | (_, b) dioE of
                                                                      P x (w. x. case case (xT,case daT,deT,daT,daT of
                             P x (x. case daT,xT,daT,daT of P )T | \_ (x. dio)E,
                    xT,case daT,deT,daT,daT of P x (x. case daT,xT,daT,daT of P )T
        | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
        | (_, b) dioE of
\label{eq:final_problem} | \mbox{ F x } \mbox{ (w. x.} \\ \mbox{case case (xT,case daT,daT,daT,daT of P x } \mbox{ (x. case daT,xT,daT,daT of P } \\ \mbox{ } \mbox{ 
                                                                                                                                                )Т
                               | _ (x. dio)E,
                      xT, case daT, deT, daT, daT of P x (x. case daT, xT, daT, daT of P
                               | _ (x. dio)E) of
          (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
          | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
          | (_, b) dioE of
         w)F
```

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| _ dioE)
                               (case case (daT, case daT, daT, deT, daT of
P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E,
                                              daT, case daT, daT, deT, daT of
P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E) of  (P \ , \ P \ ) \ (w. \ w = \ w)P 
                                        | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                        | (F, F) (w. w = w)F | (F, _) dioE
                                        | (_, b) dioE of
                                   P x (w. x. case case (xT, case daT, daT, deT, daT of
               P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E,
          xT,case daT,daT,deT,daT of P x (x. case daT,daT,xT,daT of P )T
               | _ (x. dio)E) of
     (P \ , \ P \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ \_) \quad dioE 
    | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
    | (_, b) dioE of
                                   | F x (w. x.
case case (xT,case daT,daT,deT,daT of P x (x. case daT,daT,xT,daT of P
               | _ (x. dio)E,
           xT, case daT, daT, deT, daT of P x (x. case daT, daT, xT, daT of P
                                                                          )Т
                | _ (x. dio)E) of
     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)F
                                   | _ dioE)
                               (case case (daT,case daT,daT,daT,deT of
P x (x. case daT,daT,daT,xT of P )T | _ (x. dio)E,
                                              daT, case daT, daT, daT, deT of
P x (x. case daT,daT,xT of P )T | _ (x. dio)E) of
                                        (P, P) (w. w = w)P
                                        | (P, F) (w. w = w)F | (P, _) dioE
                                        | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                        | (_, b) dioE of
                                   P x (w. x. case case (xT,case daT,daT,daT,deT of
               P x (x. case daT,daT,xT of P )T | _ (x. dio)E,
          xT,case daT,daT,daT,deT of P x (x. case daT,daT,daT,xT of P )T
               | _ (x. dio)E) of
    | (_, b) dioE of
                                                       w)P
                                   | F x (w. x.
case case (xT,case daT,daT,daT,deT of P x (x. case daT,daT,xT of P
               | _ (x. dio)E,
           xT, case daT, daT, daT, deT of P x (x. case daT, daT, daT, xT of P
               | _ (x. dio)E) of
     (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)F
                                   | _ dioE) of
                          P x (w. x. case (case case (daT,case daT,deT,daT,xT of
               P xa (xa. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
          daT, case daT, deT, daT, xT of P xa (xa. case daT, xaT, daT, xT of P
               | _ (x. dio)E) of
    (P \ , \ P \ ) \quad (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ \_) \quad dioE
    (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE (_, b) dioE of
 (w. xa. case case (xaT, case daT, deT, daT, xT of
                            P xa (xa. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
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xaT, case daT, deT, daT, xT of

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P xa (xa. case daT,xaT,daT,xT of P )T
                        | _ (x. dio)E) of
              (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
             w)P
                                              | F xa
 (w. xa. case case (xaT, case daT, deT, daT, xT of
                          P xa (xa. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
                     xaT,case daT,deT,daT,xT of
                          P xa (xa. case daT,xaT,daT,xT of P )T
                          | _ (x. dio)E) of
               \mid (F , _) dioE \mid (_, b) dioE of
               w)F
                                              | _ dioE)
                                          (case case (daT,case daT,daT,deT,xT of
             P xa (xa. case daT,daT,xaT,xT of P )T \mid _ (x. dio)E,
        daT, case daT, daT, deT, xT of P xa (xa. case daT, daT, xaT, xT of P
             | _ (x. dio)E) of
  (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
  | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
  | (_, b) dioE of
                                              P xa
(w. xa. case case (xaT, case daT, daT, deT, xT of
                        P xa (xa. case daT,daT,xaT,xT of P )T | _ (x. dio)E,
                   xaT,case daT,daT,deT,xT of
                        P xa (xa. case daT,daT,xaT,xT of P )T
                        | _ (x. dio)E) of
              (P,P) (w. w = w)P | (P,F) (w. w = w)F | (P,_) dioE
              | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
             | (_, b) dioE of
             w)P
                                              l F xa
 (w. xa. case case (xaT,case daT,daT,deT,xT of
                         P xa (xa. case daT,daT,xaT,xT of P )T | _ (x. dio)E,
                     xaT,case daT,daT,deT,xT of
                          P xa (xa. case daT,daT,xaT,xT of P )T
                          | _ (x. dio)E) of
                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
               | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, F) dioE | (_, b) dioE of
              w)F
                                              | _ dioE)
                                          (case case (daT,case daT,daT,xT,deT of
             P xa (xa. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
        daT,case daT,daT,xT,deT of P xa (xa. case daT,daT,xT,xaT of P
             | _ (x. dio)E) of
   (P \ , \ P \ ) \quad (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ \_) \quad dioE 
  | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
  | (_, b) dioE of
                                              P xa
(w. xa. case case (xaT, case daT, daT, xT, deT of
                        P xa (xa. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
                   xaT,case daT,daT,xT,deT of
                        P xa (xa. case daT,daT,xT,xaT of P )T
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
             | (_, b) dioE of
             w)P
                                              | F xa
 (w. xa. case case (xaT, case daT, daT, xT, deT of
                          P xa (xa. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
                     xaT,case daT,daT,xT,deT of
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P xa (xa. case daT,daT,xT,xaT of P )T
                            | _ (x. dio)E) of
                 (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
                | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                w)F
                                                 | _ dioE) of
                        | F x (w. x. case (case case (daT, case daT, deT, daT, xT of
               P xa (xa. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
           daT,case daT,deT,daT,xT of P xa (xa. case daT,xaT,daT,xT of P
                | _ (x. dio)E) of
     | (_, b) dioE of
Рха
  (w. xa. case case (xaT,case daT,deT,daT,xT of
                           P xa (xa. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
                       xaT,case daT,deT,daT,xT of
                            P xa (xa. case daT,xaT,daT,xT of P )T
                            | _ (x. dio)E) of
                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                 | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
                 w)P
| F xa
    (w. xa. case case (xaT,case daT,deT,daT,xT of
                              P xa (xa. case daT,xaT,daT,xT of P )T
                              | _ (x. dio)E,
                         xaT,case daT,deT,daT,xT of
                              P xa (xa. case daT,xaT,daT,xT of P )T
                               | _ (x. dio)E) of
                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                  w)F
| _ dioE)
                                               (case case (daT,case daT,daT,deT,xT of
                 P xa (xa. case daT,daT,xaT,xT of P )T | _ (x. dio)E,
          daT,case daT,daT,deT,xT of P xa (xa. case daT,daT,xaT,xT of P
                | _ (x. dio)E) of
    | (_, b) dioE of
P xa
  (w. xa. case case (xaT, case daT, daT, deT, xT of
                            P xa (xa. case daT,daT,xaT,xT of P )T | _ (x. dio)E,
                       xaT,case daT,daT,deT,xT of
                            P xa (xa. case daT,daT,xaT,xT of P )T
                            | _ (x. dio)E) of
                 (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                 \mid (F , _) dioE \mid (_, b) dioE of
                w)P
| F xa
   (w. xa. case case (xaT, case daT, daT, deT, xT of
                              P xa (xa. case daT,daT,xaT,xT of P )T
                              | _ (x. dio)E,
                         xaT,case daT,daT,deT,xT of
                              P xa (xa. case daT,daT,xaT,xT of P )T
                   | _ (x. dio)E) of
(P,P) (w. w = w)P | (P,F) (w. w = w)F
                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                  w)F
| _ dioE)
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(case case (daT,case daT,daT,xT,deT of
                 P xa (xa. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
           daT,case daT,daT,xT,deT of P xa (xa. case daT,daT,xT,xaT of P
                 | _ (x. dio)E) of
     (P \ , \ P \ ) \quad (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ \_) \quad dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
Рха
  (w. xa. case case (xaT, case daT, daT, xT, deT of
                            P xa (xa. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
                       xaT,case daT,daT,xT,deT of
                            P xa (xa. case daT,daT,xT,xaT of P )T
                 | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
                 w)P
| F xa
    (w. xa. case case (xaT,case daT,daT,xT,deT of
                               P xa (xa. case daT,daT,xT,xaT of P )T
                              | _ (x. dio)E,
                         xaT,case daT,daT,xT,deT of
                               P xa (xa. case daT,daT,xT,xaT of P )T
                               | _ (x. dio)E) of
                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                   w)F
| _ dioE) of
                                           F w)F
                         | _ dioE of
                    P x (w. x. case case (case case (daT,case daT,deT,xT,daT of
              P xa (xa. case daT,xaT,xT,daT of P )T \mid _ (x. dio)E,
         daT, case daT, deT, xT, daT of P xa (xa. case daT, xaT, xT, daT of P )T
              | _ (x. dio)E) of
   (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
   | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
   | (_, b) dioE of
(w. xa. case case (xaT, case daT, deT, xT, daT of
                          P xa (xa. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
                     xaT, case daT, deT, xT, daT of
                          P xa (xa. case daT,xaT,xT,daT of P )T
                           | _ (x. dio)E) of
               (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE
               | (_, b) dioE of
               w)P
                                                  | F xa
  (w. xa. case case (xaT, case daT, deT, xT, daT of
                            P xa (xa. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
                       xaT,case daT,deT,xT,daT of
                            P xa (xa. case daT,xaT,xT,daT of P )T
                             | _ (x. dio)E) of
                 (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                 \mid (F , _) dioE \mid (_, b) dioE of
                w)F
                                                  | _ dioE)
                                              (case case (daT,case daT,xT,deT,daT of
              P xa (xa. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
         daT,case daT,xT,deT,daT of P xa (xa. case daT,xT,xaT,daT of P
              | _ (x. dio)E) of
   (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
   \label{eq:continuous} | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
   | (_, b) dioE of
```

```
P xa
(w. xa. case case (xaT, case daT, xT, deT, daT of
                         P xa (xa. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
                    xaT,case daT,xT,deT,daT of
                         P xa (xa. case daT,xT,xaT,daT of P )T
                          | _ (x. dio)E) of
              (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE
              | (_, b) dioE of
              w)P
                                                 | F xa
 (w. xa. case case (xaT,case daT,xT,deT,daT of
                           P xa (xa. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
                      xaT,case daT,xT,deT,daT of
                           P xa (xa. case daT,xT,xaT,daT of P )T
                            | _ (x. dio)E) of
                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                | (F , _) dioE | (_, b) dioE of
           F
```

w)F | \_ dioE) (case case (daT,case daT,xT,daT,deT of

P xa (xa. case daT,xT,daT,xaT of P )T | \_ (x. dio)E, daT, case daT, xT, daT, deT of P xa (xa. case daT, xT, daT, xaT of P  $| _{-}$  (x. dio)E) of

| (\_, b) dioE of

P xa

(w. xa. case case (xaT, case daT, xT, daT, deT of

P xa (xa. case daT,xT,daT,xaT of P )T | \_ (x. dio)E, xaT,case daT,xT,daT,deT of P xa (xa. case daT,xT,daT,xaT of P )T | \_ (x. dio)E) of (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , \_) dioE | (F , P ) (w. w = w)F | (F , F ) dioE | (\_, b) dioE of

| F xa

(w. xa. case case (xaT, case daT, xT, daT, deT of

w)P

P xa (xa. case daT,xT,daT,xaT of P )T | \_ (x. dio)E, xaT,case daT,xT,daT,deT of P xa (xa. case daT,xT,daT,xaT of P )T | \_ (x. dio)E) of

 $\mid$  (F , \_) dioE  $\mid$  (\_, b) dioE of w)F

| \_ dioE) of

P xa (w. xa.

case (case case (daT, case daT, deT, xT, xaT of

P xb

P xb (xaa. case daT,xaaT,xT,xaT of P )T | \_ (x. dio)E, daT,case daT,deT,xT,xaT of

P xb (xaa. case daT,xaaT,xT,xaT of P )T | \_ (x. dio)E) of

 $(P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE$  $| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE$  $| (_, b)$  dioE of

(w. xaa. case case (xaaT, case daT, deT, xT, xaT of

P xb (xaa. case daT,xaaT,xT,xaT of P )T | \_ (x. dio)E, xaaT, case daT, deT, xT, xaT of

P xb (xaa. case daT,xaaT,xT,xaT of P )T | \_ (x. dio)E) of

```
(P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _ ) dioE | (F , P ) (w. w = w)F
                      | (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      w)P
   | F xb
        (w. xaa. case case (xaaT,case daT,deT,xT,xaT of
                                      P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,deT,xT,xaT of
                                     P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                      | _ (x. dio)E) of
                         (P, P) (w. w = w)P | (P, F) (w. w = w)F
                        | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
   | _ dioE)
(case case (daT,case daT,xT,deT,xaT of
                    P xb (xaa. case daT,xT,xaaT,xaT of P )T | _ (x. dio)E,
               daT,case daT,xT,deT,xaT of
                     P xb (xaa. case daT,xT,xaaT,xaT of P )T
                     | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
         | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
         | (_, b) dioE of
   P xb
     (w. xaa. case case (xaaT,case daT,xT,deT,xaT of
                                   P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                    | _ (x. dio)E,
                             xaaT,case daT,xT,deT,xaT of
                                   P xb (xaa. case daT,xT,xaaT,xaT of P
                                    | _ (x. dio)E) of
                      (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                      | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                      w)P
    | F xb
        (w. xaa. case case (xaaT,case daT,xT,deT,xaT of
                                      P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,xT,deT,xaT of
                                      P xb (xaa. case daT,xT,xaaT,xaT of P
                                      | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                        w)F
   | _ dioE)
(case case (daT,case daT,xT,xaT,deT of
                     P xb (xaa. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
               daT, case daT, xT, xaT, deT of
                     P xb (xaa. case daT,xT,xaT,xaaT of P )T
                     | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
         | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                   P xb (xaa. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                             xaaT,case daT,xT,xaT,deT of
                                   P xb (xaa. case daT,xT,xaT,xaaT of P
                                    | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
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| F xb
            (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                           P xb (xaa. case daT,xT,xaT,xaaT of P
                                           | _ (x. dio)E,
                                    xaaT,case daT,xT,xaT,deT of
                                           P xb (xaa. case daT,xT,xaT,xaaT of P )T
                              | \  \  | \  \  (x. \ dio)E) \ of \\ (P \ , \ P \ ) \  \  (w. \ w = \ w)P \ | \  (P \ , \ F \ ) \  \  (w. \ w = \ w)F 
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                             w)F
       | _ dioE) of
  w)P
                                            | F xa
                                                (w. xa.
case (case case (daT,case daT,deT,xT,xaT of
                           P xb (xaa. case daT,xaaT,xT,xaT of P )T | _ (x. dio)E,
                      daT, case daT, deT, xT, xaT of
                            P xb (xaa. case daT,xaaT,xT,xaT of P )T
                            | _ (x. dio)E) of
               | (_, b) dioE of
         P xb
            (w. xaa. case case (xaaT,case daT,deT,xT,xaT of
                                           P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                           | _ (x. dio)E,
                                    xaaT,case daT,deT,xT,xaT of
                                           P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                           | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                             \mid (P , _) dioE \mid (F , P ) (w. w = w)F
                             \label{eq:continuous} | \ (F \ , \ F \ ) \quad (w. \quad w \ = \ w)F \ | \ (F \ , \ \_) \quad dioE \ | \ (\_, \ b) \quad dioE \ of
                             w)P
         I F xb
              (w. xaa. case case (xaaT,case daT,deT,xT,xaT of
                                             P xb (xaa. case daT,xaaT,xT,xaT of P
                                              | _ (x. dio)E,
                                      xaaT,case daT,deT,xT,xaT of
                                             P xb (xaa. case daT,xaaT,xT,xaT of P
                                              | _ (x. dio)E) of
                                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _ ) dioE | (F , _ P ) (w. w = w)F
                                | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
                                | (_, b) dioE of
                               w)F
         | _ dioE)
     (case case (daT,case daT,xT,deT,xaT of
                           P xb (xaa. case daT,xT,xaaT,xaT of P )T | _ (x. dio)E,
                      daT, case daT, xT, deT, xaT of
                            P xb (xaa. case daT,xT,xaaT,xaT of P )T
                            | _ (x. dio)E) of
               (P \ , \ P \ ) \quad (w. \ \ w \ = \ \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ \ w \ = \ \ w)F \ | \ (P \ , \ \_) \quad dioE
               | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
               | (_, b) dioE of
         P xb
            (w. xaa. case case (xaaT,case daT,xT,deT,xaT of
                                           P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                           | _ (x. dio)E,
                                    xaaT,case daT,xT,deT,xaT of
                                           P xb (xaa. case daT,xT,xaaT,xaT of P
                                           | _ (x. dio)E) of
                              (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                             \mid (P , _) dioE \mid (F , P ) (w. w = w)F
                             | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE \ | \ (\_, \ b) \ dioE \ of
                             w)P
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| F xb
             (w. xaa. case case (xaaT, case daT, xT, deT, xaT of
                                          P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case daT,xT,deT,xaT of
                                          P xb (xaa. case daT,xT,xaaT,xaT of P )T
                              | \  \  | \  \  (x. \ dio)E) \ of \\ (P \ , \ P \ ) \  \  (w. \ w = \ w)P \ | \  (P \ , \ F \ ) \  \  (w. \ w = \ w)F 
                             | (P, _) dioE | (F, P) (w. w = w)F
                             | (F, F) (w. w = w)F | (F, _) dioE
                             | (_, b) dioE of
                             w)F
         | _ dioE)
      (case case (daT,case daT,xT,xaT,deT of
                          P xb (xaa. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                    daT, case daT, xT, xaT, deT of
                          P xb (xaa. case daT,xT,xaT,xaaT of P )T
                          | _ (x. dio)E) of
               (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
               | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
          P vh
            (w. xaa. case case (xaaT, case daT, xT, xaT, deT of
                                       P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                        | _ (x. dio)E,
                                 xaaT, case daT, xT, xaT, deT of
                                        P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                        | _ (x. dio)E) of
                           (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _ ) dioE | (F , P ) (w. w = w)F
                            | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                           w)P
          | F xb
              (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                          P xb (xaa. case daT,xT,xaT,xaaT of P
| _ (x. dio)E,
                                   xaaT,case daT,xT,xaT,deT of
                                          P xb (xaa. case daT,xT,xaT,xaaT of P
                                          | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                             | (_, b) dioE of
                             w)F
         | _ dioE) of
     w)F
                                        | _ dioE of
                                   P
                                       w)P
                   | F x (w. x. case case (case case (daT, case daT, deT, xT, daT of
               P xa (xa. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
          {\tt daT,case\ daT,deT,xT,daT\ of\ P\ xa} (xa. case {\tt daT,xaT,xT,daT\ of\ P}
                | _ (x. dio)E) of
     | (_, b) dioE of
Рха
  (w. xa. case case (xaT, case daT, deT, xT, daT of
                            P xa (xa. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
                       xaT,case daT,deT,xT,daT of
                            P xa (xa. case daT,xaT,xT,daT of P )T
                 | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                \mid (F , _) dioE \mid (_, b) dioE of
                w)P
| F xa
```

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(w. xa. case case (xaT, case daT, deT, xT, daT of
                               P xa (xa. case daT,xaT,xT,daT of P )T
                               | _ (x. dio)E,
                         xaT,case daT,deT,xT,daT of
                              P xa (xa. case daT,xaT,xT,daT of P )T
                               | _{-} (x. dio)E) of
                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                   | (P , _) dioE | (F , P ) (w. w = w)F
                   \mid (F , F ) (w. w = w)F \mid (F , _) dioE \mid (_, b) dioE of
                   w)F
| _ dioE)
                                                (case case (daT,case daT,xT,deT,daT of
                 P xa (xa. case daT,xT,xaT,daT of P )T | \underline{\phantom{a}} (x. dio)E,
           daT, case daT, xT, deT, daT of P xa (xa. case daT, xT, xaT, daT of P
                | _ (x. dio)E) of
     (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
     | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
     | (_, b) dioE of
P xa
  (w. xa. case case (xaT,case daT,xT,deT,daT of
                            P xa (xa. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
                       xaT,case daT,xT,deT,daT of
                             P xa (xa. case daT,xT,xaT,daT of P )T
                             | _ (x. dio)E) of
                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                 | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                 w)P
I F xa
    (w. xa. case case (xaT,case daT,xT,deT,daT of
                              P xa (xa. case daT,xT,xaT,daT of P )T
                               | _ (x. dio)E,
                         xaT,case daT,xT,deT,daT of
                               P xa (xa. case daT,xT,xaT,daT of P )T
                               | _ (x. dio)E) of
                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                  w)F
| _ dioE)
                                                (case case (daT,case daT,xT,daT,deT of
                P xa (xa. case daT,xT,daT,xaT of P )T | _ (x. dio)E,
           daT, case daT, xT, daT, deT of P xa (xa. case daT, xT, daT, xaT of P
                 | _ (x. dio)E) of
     (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
     | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
     | (_, b) dioE of
P xa
  (w. xa. case case (xaT,case daT,xT,daT,deT of
                           P xa (xa. case daT,xT,daT,xaT of P )T | _ (x. dio)E,
                       xaT,case daT,xT,daT,deT of
                             P xa (xa. case daT,xT,daT,xaT of P )T
                             | _ (x. dio)E) of
                 (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
                 | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_, b) dioE of
                 w)P
| F xa
    (w. xa. case case (xaT, case daT, xT, daT, deT of
                               P xa (xa. case daT,xT,daT,xaT of P )T
                               | _ (x. dio)E,
                         xaT,case daT,xT,daT,deT of
                              P xa (xa. case daT,xT,daT,xaT of P )T
                   | (P, _) dioE | (F, P) (w. w = w)F
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| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                  w)F
| dioE) of
                                            Р ха
                                              (w. xa.
case (case case (daT,case daT,deT,xT,xaT of
                           P xb (xaa. case daT,xaaT,xT,xaT of P )T | _ (x. dio)E,
                     daT, case daT, deT, xT, xaT of
                           P xb (xaa. case daT,xaaT,xT,xaT of P )T
                           | _ (x. dio)E) of
               (P\ ,\ P\ ) \quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ ) \quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_) \quad dioE
               | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
               | (_, b) dioE of
          P xb
            (w. xaa. case case (xaaT, case daT, deT, xT, xaT of
                                          P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case daT,deT,xT,xaT of
                                          P xb (xaa. case daT,xaaT,xT,xaT of P
                                          | _ (x. dio)E) of
                             (P , P) (w. w = w)P | (P , F) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                             w)P
          | F xb
              (w. xaa. case case (xaaT,case daT,deT,xT,xaT of
                                            P xb (xaa. case daT,xaaT,xT,xaT of P
                                            | _ (x. dio)E,
                                     xaaT,case daT,deT,xT,xaT of
                                            P xb (xaa. case daT,xaaT,xT,xaT of P
                                            | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | \ (P \ , \ \_) \ \ dioE \ | \ (F \ , \ P \ ) \ \ (w. \ w = \ w)F
                               | (F, F) (w. w = w)F | (F, _) dioE
                               | (_, b) dioE of
                              w)F
          | _ dioE)
      (case case (daT,case daT,xT,deT,xaT of
                           P xb (xaa. case daT,xT,xaaT,xaT of P )T | _ (x. dio)E,
                     daT, case daT, xT, deT, xaT of
                           P xb (xaa. case daT,xT,xaaT,xaT of P )T
                           | _{-} (x. dio)E) of
               (P\ ,\ P\ ) \quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ ) \quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_) \quad dioE
               | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
               | (_, b)  dioE of
          P xb
            (w. xaa. case case (xaaT,case daT,xT,deT,xaT of
                                         P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case daT,xT,deT,xaT of
                                          P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                          | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                            w)P
          | F xb
              (w. xaa. case case (xaaT, case daT, xT, deT, xaT of
                                            P xb (xaa. case daT,xT,xaaT,xaT of P
                                            | _ (x. dio)E,
                                     xaaT,case daT,xT,deT,xaT of
                                            P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                            | _ (x. dio)E) of
                               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
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| (_, b) dioE of
                               w)F
          | _ dioE)
       (case case (daT,case daT,xT,xaT,deT of
                           P xb (xaa. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                      daT, case daT, xT, xaT, deT of
                            P xb (xaa. case daT,xT,xaT,xaaT of P )T
                           | _{-} (x. dio)E) of
                (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
                | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
                | (_, b) dioE of
           P xb
             (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                          P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case daT,xT,xaT,deT of
                                          P xb (xaa. case daT,xT,xaT,xaaT of P
                                          | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                             w)P
           | F xb
               (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                            P xb (xaa. case daT,xT,xaT,xaaT of P
                                            | _ (x. dio)E,
                                     xaaT,case daT,xT,xaT,deT of
                                            P xb (xaa. case daT,xT,xaT,xaaT of P
                                            | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, p) (dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, F) (w. w = w)F | (F, p) (dioE
                               | (_, b) dioE of
      | _ dioE) of w)P
                               w)F
                                            | F xa
xa. case (case case (daT,case daT,deT,xT,xaT of
                              P xb (xaa. case daT,xaaT,xT,xaT of P )T
                               | _ (x. dio)E,
                         daT, case daT, deT, xT, xaT of
                               P xb (xaa. case daT,xaaT,xT,xaT of P )T
                               | _ (x. dio)E) of
                   | (F , _) dioE | (_, b) dioE of
              P xb
                (w. xaa. case case (xaaT,case daT,deT,xT,xaT of
                                            P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                             | _ (x. dio)E,
                                      xaaT,case daT,deT,xT,xaT of
                                            P xb (xaa. case daT,xaaT,xT,xaT of P
                                             | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                | (_, b) dioE of
                                w)P
              | F xb
                  (w. xaa. case case (xaaT, case daT, deT, xT, xaT of
                                               P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                               | _ (x. dio)E,
                                        xaaT,case daT,deT,xT,xaT of
                                               P xb (xaa. case daT,xaaT,xT,xaT of P )T
                                               | _ (x. dio)E) of
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(P, P) (w. w = w)P | (P, F) (w. w = w)F
                        | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                        | (_, b) dioE of
                        w)F
    | _ dioE)
(case case (daT,case daT,xT,deT,xaT of
                     P xb (xaa. case daT,xT,xaaT,xaT of P )T
                     | _ (x. dio)E,
               daT, case daT, xT, deT, xaT of
                     P xb (xaa. case daT,xT,xaaT,xaT of P )T
                     | _{-} (x. dio)E) of
        | (F , _) dioE | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT,case daT,xT,deT,xaT of
                                  P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                   | _ (x. dio)E,
                            xaaT,case daT,xT,deT,xaT of
                                   P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                   | _ (x. dio)E) of
                      (P, P) (w. w = w)P | (P, F) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
                      | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
                      | (_, b) dioE of
                      w)P
    | F xb
        (w. xaa. case case (xaaT, case daT, xT, deT, xaT of
                                     P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                     | _ (x. dio)E,
                              xaaT,case daT,xT,deT,xaT of
                                     P xb (xaa. case daT,xT,xaaT,xaT of P )T
                                     | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
                        | (_, b) dioE of
                        w)F
    | _ dioE)
(case case (daT,case daT,xT,xaT,deT of
                     P xb (xaa. case daT,xT,xaT,xaaT of P )T
                     | _ (x. dio)E,
               daT,case daT,xT,xaT,deT of
                     P xb (xaa. case daT,xT,xaT,xaaT of P )T
                     | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
        | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
      (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                   P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                   | _ (x. dio)E,
                            xaaT,case daT,xT,xaT,deT of
                                   P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                   | _ (x. dio)E) of
                      (P, P) (w. w = w)P | (P, F) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                      | (_, b) dioE of
                      w)P
    l F xb
        (w. xaa. case case (xaaT,case daT,xT,xaT,deT of
                                     P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                     | _ (x. dio)E,
                              xaaT,case daT,xT,xaT,deT of
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P xb (xaa. case daT,xT,xaT,xaaT of P )T
                                          | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (_, b) dioE of
                              w)F
           | _ dioE) of
                                       | _ dioE of
                                       w)F
                  | _ dioE) of
            P x (w. x. case (case case (daT,case daT,deT,daT,daT of
            P \times (x. case daT, xT, daT, daT of P) T | (x. dio)E,
        daT, case xT, deT, daT, daT of P xa (xa. case xT, xaT, daT, daT of P )T
             | _{-} (x. dio)E) of
  (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
   | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE 
  | (_, b) dioE of
(w. xa. case case (xaT,case daT,deT,daT,daT of
                        P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E,
                   xaT,case xT,deT,daT,daT of
                        P xa (xa. case xT,xaT,daT,daT of P )T
                         | _ (x. dio)E) of
             (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
             w)P
                                              | F xa
 (w. xa. case case (xaT, case daT, deT, daT, daT of
                          P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E,
                     xaT,case xT,deT,daT,daT of
                          P xa (xa. case xT,xaT,daT,daT of P )T
                          | _ (x. dio)E) of
               | (F , _) dioE | (_, b) dioE of
               w)F
                                             | _ dioE)
                                          (case case (daT,case daT,daT,deT,daT of
             P x (x. case daT,daT,xT,daT of P )T | \_ (x. dio)E,
        daT,case xT,daT,deT,daT of P xa (xa. case xT,daT,xaT,daT of P
             | _ (x. dio)E) of
  (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
  | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
  | (_, b) dioE of
                                              P xa
(w. xa. case case (xaT, case daT, daT, deT, daT of
                       P \times (x. case daT, daT, xT, daT of P)T \mid (x. dio)E,
                   xaT,case xT,daT,deT,daT of
                        P xa (xa. case xT,daT,xaT,daT of P )T
                        | _ (x. dio)E) of
              (P\ ,\ P\ ) \quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ ) \quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_) \quad dioE
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
             w)P
                                              | F xa
 (w. xa. case case (xaT, case daT, daT, deT, daT of
                          P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E,
                     xaT, case xT, daT, deT, daT of
                          P xa (xa. case xT,daT,xaT,daT of P )T
                          | _ (x. dio)E) of
               | (F , _) dioE | (_, b) dioE of
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F w)F
                                                   | _ dioE)
                                               (case case (daT,case daT,daT,daT,deT of
               P x (x. case daT,daT,xT of P )T | _ (x. dio)E,
          daT, case xT, daT, daT, deT of P xa (xa. case xT, daT, daT, xaT of P )T
                | _ (x. dio)E) of
   (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
   | (_, b) dioE of
                                                   P xa
 (w. xa. case case (xaT, case daT, daT, daT, deT of
                          P x (x. case daT,daT,xT of P )T | _ (x. dio)E,
                      xaT,case xT,daT,daT,deT of
                           P xa (xa. case xT,daT,daT,xaT of P )T
                           | _ (x. dio)E) of
                (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
                | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
                | (_, b) dioE of
                w)P
                                                   | F xa
  (w. xa. case case (xaT, case daT, daT, daT, deT of
                             P x (x. case daT,daT,xT of P )T | _ (x. dio)E,
                        xaT,case xT,daT,daT,deT of
                             P xa (xa. case xT,daT,daT,xaT of P )T
                              | _ (x. dio)E) of
                  \mid (F , _) dioE \mid (_, b) dioE of
                  w)F
                                                  | _ dioE) of
                                          P xa
                                            (w. xa.
case (case case (daT,case daT,deT,daT,xaT of
                         P x (x. case daT,xT,daT,xaT of P )T | _ (x. dio)E,
                    daT,case xT,deT,daT,xaT of
                         P xb (xaa. case xT,xaaT,daT,xaT of P )T
                          | _ (x. dio)E) of
              (P , P) (w. w = w)P | (P , F) (w. w = w)F | (P , _) dioE
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
        P xb
           (w. xaa. case case (xaaT, case daT, deT, daT, xaT of
                                       P x (x. case daT,xT,daT,xaT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case xT,deT,daT,xaT of
                                        P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                        | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                           | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                           w)P
         | F xb
            (w. xaa. case case (xaaT, case daT, deT, daT, xaT of
                                          P x (x. case daT,xT,daT,xaT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case xT,deT,daT,xaT of
                                          P xb (xaa. case xT,xaaT,daT,xaT of P )T
                              | \  \  | \  \  (x. \ dio)E) \ of \\ (P \ , \ P \ ) \  \  (w. \ w = \ w)P \ | \  (P \ , \ F \ ) \  \  (w. \ w = \ w)F 
                             | (P, \_) \text{ dioE} | (F, P) (w. w = w)F
                             | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                             w)F
         | _ dioE)
     (case case (daT, case daT, daT, deT, xaT of
                         P x (x. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
                    daT, case xT, daT, deT, xaT of
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P xb (xaa. case xT,daT,xaaT,xaT of P )T
                        | _ (x. dio)E) of
            (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
            | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
            | (_, b) dioE of
       P xb
         (w. xaa. case case (xaaT, case daT, daT, deT, xaT of
                                      P x (x. case daT,daT,xT,xaT of P )T
                                       | _ (x. dio)E,
                                xaaT,case xT,daT,deT,xaT of
                                      P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                      | _ (x. dio)E) of
                         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                         | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                         w)P
       | F xb
           (w. xaa. case case (xaaT,case daT,daT,deT,xaT of
                                        P x (x. case daT,daT,xT,xaT of P )T
                                         | _ (x. dio)E,
                                  xaaT,case xT,daT,deT,xaT of
                                         P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                        | _ (x. dio)E) of
                            (P, P) (w. w = w)P | (P, F) (w. w = w)F
                           | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                           w)F
       | _ dioE)
   (case case (daT,case daT,daT,xaT,deT of
                        P x (x. case daT,daT,xaT,xT of P )T | _ (x. dio)E,
                  daT, case xT, daT, xaT, deT of
                        P xb (xaa. case xT,daT,xaT,xaaT of P )T
                        | _ (x. dio)E) of
            (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
            | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
            | (_, b) dioE of
       P xb
         (w. xaa. case case (xaaT, case daT, daT, xaT, deT of
                                       P x (x. case daT, daT, xaT, xT of P )T | _ (x. dio)E,
                                xaaT,case xT,daT,xaT,deT of
                                      P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                       | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                         w)P
       | F xb
           (w. xaa. case case (xaaT, case daT, daT, xaT, deT of
                                        P x (x. case daT,daT,xaT,xT of P )T
                                         | _ (x. dio)E,
                                  xaaT,case xT,daT,xaT,deT of
                                        P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                         | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                           | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE \ | \ (\_, \ b) \ dioE \ of
                           w)F
      | _ dioE) of
  w)P
                                         | F xa
                                            (w. xa.
case (case case (daT,case daT,deT,daT,xaT of
                          P x (x. case daT,xT,daT,xaT of P )T | _ (x. dio)E,
                    daT,case xT,deT,daT,xaT of
                          P xb (xaa. case xT,xaaT,daT,xaT of P )T
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```
| _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
         | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT, case daT, deT, daT, xaT of
                                   P x (x. case daT,xT,daT,xaT of P )T | _ (x. dio)E,
                            xaaT,case xT,deT,daT,xaT of
                                   P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                   | _ (x. dio)E) of
                      (P, P) (w. w = w)P | (P, F) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      w)P
   | F xb
        (w. xaa. case case (xaaT,case daT,deT,daT,xaT of
                                    P x (x. case daT,xT,daT,xaT of P )T
                                     | _ (x. dio)E,
                              xaaT,case xT,deT,daT,xaT of
                                     P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                     | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                        \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                        | (_, b) dioE of
                        w)F
   | _ dioE)
(case case (daT,case daT,daT,deT,xaT of
                    P x (x. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
               daT, case xT, daT, deT, xaT of
                     P xb (xaa. case xT,daT,xaaT,xaT of P )T
                     | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
         | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT,case daT,daT,deT,xaT of
                                   P x (x. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
                            xaaT,case xT,daT,deT,xaT of
                                  P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                   | _ (x. dio)E) of
                      (P, P) (w. w = w)P | (P, F) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      w)P
   | F xb
        (w. xaa. case case (xaaT,case daT,daT,deT,xaT of
                                    P x (x. case daT,daT,xT,xaT of P )T
                                     | _ (x. dio)E,
                              xaaT,case xT,daT,deT,xaT of
                                     P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                     | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                        | (F, F) (w. w = w)F | (F, _) dioE
                        | (_, b) dioE of
                        w)F
   | _ dioE)
(case case (daT,case daT,daT,xaT,deT of
                    P x (x. case daT,daT,xaT,xT of P )T | _ (x. dio)E,
               daT,case xT,daT,xaT,deT of
                    P xb (xaa. case xT,daT,xaT,xaaT of P )T
                    | _ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
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| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
         | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case daT,daT,xaT,deT of
                                   P x (x. case daT,daT,xaT,xT of P )T
                                    | _ (x. dio)E,
                             xaaT,case xT,daT,xaT,deT of
                                    P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                    | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                       | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
    | F xb
        (w. xaa. case case (xaaT, case daT, daT, xaT, deT of
                                      P x (x. case daT,daT,xaT,xT of P )T
                                      | _ (x. dio)E,
                               xaaT,case xT,daT,xaT,deT of
                                      P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                      | _ (x. dio)E) of
                         (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                         | (_, b) dioE of
                        w)F
   | _ dioE) of
w)F
                                   | _ dioE of
                               P xa
                                 (w. xa. case case (case case (daT, case daT, deT, xaT, daT of
                      P x (x. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
               daT,case xT,deT,xaT,daT of
                      P xb (xaa. case xT,xaaT,xaT,daT of P )T
                      | _ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE
         | (_, b)  dioE of
    P xb
      (w. xaa. case case (xaaT, case daT, deT, xaT, daT of
                                    P x (x. case daT,xT,xaT,daT of P )T
                                    | _ (x. dio)E,
                             xaaT,case xT,deT,xaT,daT of
                                    P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                    | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                       | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                       w)P
    | F xb
        (w. xaa. case case (xaaT, case daT, deT, xaT, daT of
                                      P x (x. case daT,xT,xaT,daT of P )T
                                       | _ (x. dio)E,
                               xaaT,case xT,deT,xaT,daT of
                                      P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                      | _ (x. dio)E) of
                         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                         | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                         | (_, b) dioE of
                         w)F
    | _ dioE)
(case case (daT,case daT,xaT,deT,daT of
                     P x (x. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
               daT,case xT,xaT,deT,daT of
                      P xb (xaa. case xT,xaT,xaaT,daT of P )T
                      | _ (x. dio)E) of
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| (_, b) dioE of
         P xb
           (w. xaa. case case (xaaT,case daT,xaT,deT,daT of
                                        P x (x. case daT,xaT,xT,daT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case xT,xaT,deT,daT of
                                        P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                        | _ (x. dio)E) of
                           (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                           | (P, _{}) dioE | (F, _{}P) (w. w = w)F
                           | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE \ | \ (\_, \ b) \ dioE \ of
                           w)P
         | F xb
             (w. xaa. case case (xaaT, case daT, xaT, deT, daT of
                                          P x (x. case daT,xaT,xT,daT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case xT,xaT,deT,daT of
                                          P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                          | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                             | (_, b) dioE of
                             w)F
         | dioE)
     (case case (daT,case daT,xaT,daT,deT of
                         P x (x. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
                    daT,case xT,xaT,daT,deT of
                          P xb (xaa. case xT,xaT,daT,xaaT of P )T
                          | _ (x. dio)E) of
              (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
              | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
              | (_, b) dioE of
         P xb
           (w. xaa. case case (xaaT,case daT,xaT,daT,deT of
                                        P x (x. case daT,xaT,daT,xT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case xT,xaT,daT,deT of
                                        P xb (xaa. case xT,xaT,daT,xaaT of P )T
                           | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                           w)P
         | F xb
             (w. xaa. case case (xaaT, case daT, xaT, daT, deT of
                                          P x (x. case daT,xaT,daT,xT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case xT,xaT,daT,deT of
                                          P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                          | _ (x. dio)E) of
                             (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                             | (_, b) dioE of
                            w)F
         | _ dioE) of
P xb
 (w. xaa. case (case case (daT,case daT,deT,xaT,xaaT of
                                       P x (x. case daT,xT,xaT,xaaT of P)T
                                       | _ (x. dio)E,
                                 daT, case xT, deT, xaT, xaaT of
                                       P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                       | _ (x. dio)E) of
```

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(P , P ) (w. w = w)P | (P , F ) (w. w = w)F
| (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                   P xb
                     (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
P \times (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                                            xaaaT,case xT,deT,xaT,xaaT of
P xb (xaaa. case xT,xaaaT,xaaT,xaaT of P )T | _ (x. dio)E) of
                                      (P, P) (w. w = w)P
                                      | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                      \mid (F, F) (w. w = w)F \mid (F, _) dioE
                                      | (_, b) dioE of
                                      w)P
                      (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
 P \times (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                                              xaaaT,case xT,deT,xaT,xaaT of
 P xb (xaaa. case xT,xaaaT,xaaT of P \, )T \mid _ (x. dio)E) of
                                        (P, P) (w. w = w)P
                                        \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                        | (F, P) (w. w = w)F
                                        | (F , F ) (w. w = w)F | (F , _) dioE
| (_, b) dioE of
                                   F
                                        w)F
                   | _ dioE)
               (case case (daT,case daT,xaT,deT,xaaT of
                                    P x (x. case daT,xaT,xT,xaaT of P )T
                                    | _ (x. dio)E,
                              daT,case xT,xaT,deT,xaaT of
                                   P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                        | _ (x. dio)E) of
(P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                        | (P, _{)} dioE | (F, _{)} (w. w = w)F
                        | (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                   P xb
                     (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
P x (x. case daT,xaT,xT,xaaT of P )T | \_ (x. dio)E,
                                            xaaaT,case xT,xaT,deT,xaaT of
P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E) of
                                      (P, P) (w. w = w)P
                                      | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                      | (F, F) (w. w = w)F | (F, _) dioE
                                      | (_, b) dioE of
                                      w)P
                   | F xb
                      (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
 P x (x. case daT,xaT,xT,xaaT of P )T | \_ (x. dio)E,
                                              xaaaT,case xT,xaT,deT,xaaT of
 P xb (xaaa. case xT,xaT,xaaaT,xaaT of P \, )T | \, (x. dio)E) of
                                        (P, P) (w. w = w)P
                                        \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                        | (F, P) (w. w = w)F
                                        \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                        | (_, b) dioE of
                                   F
                                        w)F
                   | _ dioE)
               (case case (daT,case daT,xaT,xaaT,deT of
                                    P x (x. case daT,xaT,xaaT,xT of P )T
                                    | _ (x. dio)E,
                              daT,case xT,xaT,xaaT,deT of
                                   P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                        | (P, _) dioE | (F, P) (w. w = w)F
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```
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                                                   (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
        P x (x. case daT,xaT,xaaT,xT of P )T | \_ (x. dio)E,
                                                                                                  xaaaT,case xT,xaT,xaaT,deT of
        P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E) of
                                                                                      (P, P) (w. w = w)P
                                                                                     | (P , F ) (w. w = w)F | (P , _) dioE
                                                                                      | (F, P) (w. w = w)F
                                                                                     \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                                                     | (_, b) dioE of
                                                                                     w)P
                                               | F xb
                                                       (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
            P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
                                                                                                     xaaaT,case xT,xaT,xaaT,deT of
           P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E) of
                                                                                          (P, P) (w. w = w)P
                                                                                          | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                                                         | (_, b) dioE of
                                                                                          w)F
                                              | _ dioE) of
                                      w)P
  | F xb
          (w. xaa. case (case case (daT,case daT,deT,xaT,xaaT of
                                                                                     P \times (x. case daT,xT,xaT,xaaT of P)T
                                                                                     | _ (x. dio)E,
                                                                         daT,case xT,deT,xaT,xaaT of
                                                                                     P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                                                                     | _ (x. dio)E) of
                                                             (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, F) (w. w = w)F | (F, F) (w
                                                             | (_, b) dioE of
                                                   P xb
                                                       (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
           P \times (x. case daT,xT,xaT,xaaT of P) T | _ (x. dio)E,
                                                                                                      xaaaT,case xT,deT,xaT,xaaT of
           P xb (xaaa. case xT,xaaaT,xaT,xaaT of P \, )T | \, (x. dio)E) of
                                                                                          (P, P) (w. w = w)P
                                                                                          (P, F) (w. w = w)F | (P, _) dioE
                                                                                          | (F, P) (w. w = w)F
                                                                                          \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                                                          | (_, b) dioE of
                                                                                          w)P
                                                   | F xb
                                                           (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of
                P \times (x. case daT,xT,xaT,xaaT of P)T | _ (x. dio)E,
xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                | _ (x. dio)E) of
                                                                                              (P, P) (w. w = w)P
                                                                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                                                              | (_, b) dioE of
                                                                                             w)F
                                                   l dioE)
                                           (case case (daT,case daT,xaT,deT,xaaT of
                                                                                     P x (x. case daT,xaT,xT,xaaT of P )T
                                                                                     | _ (x. dio)E,
                                                                          daT,case xT,xaT,deT,xaaT of
                                                                                     P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                                                                     | _ (x. dio)E) of
                                                             (P, P) (w. w = w)P | (P, F) (w. w = w)F
```

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\mid (P , _) dioE \mid (F , P ) (w. w = w)F
                                                               | (F, F) (w. w = w)F | (F, _) dioE
                                                               | (_, b) dioE of
                                                     P xb
                                                         (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
            P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
                                                                                                          xaaaT,case xT,xaT,deT,xaaT of
            P xb (xaaa. case xT,xaT,xaaaT,xaaT of P \, )T | \, (x. dio)E) of
                                                                                             (P, P) (w. w = w)P
                                                                                             | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                                                             | (F, F) (w. w = w)F | (F, _) dioE
                                                                                             | (_, b) dioE of
                                                                                             w)P
                                                            (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
                P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                | _ (x. dio)E) of
                                                                                                  (P, P) (w. w = w)P
                                                                                                 | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                                                                 | (_, b) dioE of
                                                                                      F
                                                                                                 w)F
                                                     | _ dioE)
                                             (case case (daT,case daT,xaT,xaaT,deT of
                                                                                         P x (x. case daT,xaT,xaaT,xT of P )T
                                                                                        | _ (x. dio)E,
                                                                            daT,case xT,xaT,xaaT,deT of
                                                                                        P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                                                                         | _ (x. dio)E) of
                                                               (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, F) (w. w = w)F | (F, F) (w
                                                               | (_, b) dioE of
                                                     P xb
                                                         (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
            P \times (x. case daT,xaT,xaaT,xT of P)T | _ (x. dio)E,
                                                                                                         xaaaT,case xT,xaT,xaaT,deT of
            P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E) of
                                                                                             (P, P) (w. w = w)P
                                                                                             (P, F) (w. w = w)F | (P, _) dioE
                                                                                             | (F, P) (w. w = w)F
                                                                                             | (F , F ) (w. w = w)F | (F , _) dioE
                                                                                             | (_, b) dioE of
                                                                                             w)P
                                                     | F xb
                                                             (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
                P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                | _ (x. dio)E) of
                                                                                                  (P, P) (w. w = w)P
                                                                                                 (1, f, w. w = w)f

| (P, F) (w. w = w)F | (P, _) dioE

| (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                                                                                                 | (_, b) dioE of
                                                                                                 w)F
                                \mid _ dioE) of F w)F
  | _ dioE of
                                                                                                     Ρ
                                                                                                                w)P
                                                                                    (w. xa. case case (case case (daT, case daT, deT, xaT, daT of
                                                             P x (x. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
                                                daT, case xT, deT, xaT, daT of
```

```
P xb (xaa. case xT,xaaT,xaT,daT of P )T
                    | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
        P xb
     (w. xaa. case case (xaaT, case daT, deT, xaT, daT of
                                  P \times (x. case daT,xT,xaT,daT of P)T
                                  | _ (x. dio)E,
                           xaaT,case xT,deT,xaT,daT of
                                  P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                  | _ (x. dio)E) of
                     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, -) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, -) dioE
                     | (_, b) dioE of
                     w)P
   | F xb
       (w. xaa. case case (xaaT,case daT,deT,xaT,daT of
                                    P x (x. case daT,xT,xaT,daT of P )T
                                    | _ (x. dio)E,
                             xaaT,case xT,deT,xaT,daT of
                                    P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                    | _ (x. dio)E) of
                       (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                       | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                       | (_, b) dioE of
                       w)F
   | _ dioE)
(case case (daT,case daT,xaT,deT,daT of
                    P x (x. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
              daT,case xT,xaT,deT,daT of
                    P xb (xaa. case xT,xaT,xaaT,daT of P )T
                    | _ (x. dio)E) of
        | (F , _) dioE | (_, b) dioE of
     (w. xaa. case case (xaaT,case daT,xaT,deT,daT of
                                  P x (x. case daT,xaT,xT,daT of P)T
                                  | _ (x. dio)E,
                           xaaT,case xT,xaT,deT,daT of
                                 P xb (xaa. case xT,xaT,xaaT,daT of P )T
                     | _{-} (x. dio)E) of (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                     | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                     | (_, b) dioE of
                     w)P
   | F xb
       (w. xaa. case case (xaaT,case daT,xaT,deT,daT of
                                   P x (x. case daT,xaT,xT,daT of P )T
                                    | _ (x. dio)E,
                             xaaT,case xT,xaT,deT,daT of
                                   P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                   | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                       \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                       | (_, b) dioE of
                       w)F
   | _ dioE)
(case case (daT,case daT,xaT,daT,deT of
                    P x (x. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
              daT, case xT, xaT, daT, deT of
```

```
P xb (xaa. case xT,xaT,daT,xaaT of P )T
                              | _ (x. dio)E) of
                  (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
                 P vh
              (w. xaa. case case (xaaT, case daT, xaT, daT, deT of
                                             P x (x. case daT,xaT,daT,xT of P )T
                                             | _ (x. dio)E,
                                      xaaT,case xT,xaT,daT,deT of
                                             P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                            | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, -) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, -) dioE
                               | (_, b) dioE of
                               w)P
            | F xb
                 (w. xaa. case case (xaaT,case daT,xaT,daT,deT of
                                               P x (x. case daT,xaT,daT,xT of P )T
                                               | _ (x. dio)E,
                                        xaaT,case xT,xaT,daT,deT of
                                               P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                               | _ (x. dio)E) of
                                  (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                                 w)F
            | _ dioE) of
     (w. xaa. case (case case (daT, case daT, deT, xaT, xaaT of
                                            P \times (x. case daT,xT,xaT,xaaT of P)T
                                            | _ (x. dio)E,
                                      daT,case xT,deT,xaT,xaaT of
                                            P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                            | _ (x. dio)E) of
                                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                            (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of
      P \times (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                                                    xaaaT,case xT,deT,xaT,xaaT of
      P xb (xaaa. case xT,xaaaT,xaT,xaaT of P \, )T | \, (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                              | (_, b) dioE of
                                              w)P
                          | F xb
                             (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of
        P \times (x. case daT,xT,xaT,xaaT of P)T | _ (x. dio)E,
xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
                                                | (F, P) (w. w = w)F
                                                | \ (F \ , \ F \ ) \quad (w. \quad w \ = \ w)F \ | \ (F \ , \ \_) \quad dioE
                                                | (_, b) dioE of
                                                w)F
                          | _ dioE)
                      (case case (daT, case daT, xaT, deT, xaaT of
                                            P x (x. case daT,xaT,xT,xaaT of P )T
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| _ (x. dio)E,
                                          daT,case xT,xaT,deT,xaaT of
                                                 P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                                 | _ (x. dio)E) of
                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
                                   | (_, b) dioE of
                             P xb
      (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xaaT of P )T | _ (x. dio)E,
                                                           xaaaT,case xT,xaT,deT,xaaT of
      P xb (xaaa. case xT,xaT,xaaaT,xaaT of P
                                                        )T | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    \label{eq:continuous} | \ (\texttt{P} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} = \ \texttt{w})\texttt{F} \ | \ (\texttt{P} \ , \ \_) \quad \texttt{dioE}
                                                    | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b) dioE of
                                                    w)P
                                              Р
                              | F xb
                                  (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
         P \times (x. case daT,xaT,xT,xaaT of P)T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P
         | _ (x. dio)E) of
                                                       (P, P) (w. w = w)P
                                                      | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                      \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                      | (_, b) dioE of
                                                      w)F
                              | _ dioE)
                         (case case (daT,case daT,xaT,xaaT,deT of
                                                  P \times (x. case daT,xaT,xaaT,xT of P)T
                                                 | _ (x. dio)E,
                                           daT,case xT,xaT,xaaT,deT of
                                                  P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                                 | _ (x. dio)E) of
                                    (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                   | (_, b) dioE of
                              P xb
                                (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
      P \times (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
                                                           xaaaT,case xT,xaT,xaaT,deT of
      P xb (xaaa. case xT,xaT,xaaT,xaaaT of P \, )T | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b) dioE of
                                                    w)P
                              | F xb
                                  (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
         P \times (x. case daT,xaT,xaaT,xT of P)T | _ (x. dio)E,
xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
         | _ (x. dio)E) of
                                                       (P, P) (w. w = w)P
                                                       (P,F) (w. w = w)F | (P,_) dioE
                                                       | (F, P) (w. w = w)F
                                                      \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                      | (_, b) dioE of
                  \begin{array}{ccc} & & | & \_ & \text{dioE}) \text{ of} \\ P & & w)P \end{array}
                                                      w)F
   | F xb
```

```
(w. xaa. case (case case (daT, case daT, deT, xaT, xaaT of
                                               P x (x. case daT,xT,xaT,xaaT of P )T
                                                | _ (x. dio)E,
                                         daT, case xT, deT, xaT, xaaT of
                                               P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                    | \ \_ \ (x. \ dio)E) \ of \\ (P \ , \ P \ ) \ (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \ (w. \ w = \ w)F 
                                   | (P, \_)  dioE | (F, P)  (w. w = w)F
                                   \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                   | (_, b) dioE of
                             P xb
                               (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
        P \times (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,xaaT,xaaT of P xb (xaaa. case xT,xaaaT,xaaT,xaaT of P )T
        | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  | (P, F) (w. w = w)F | (P, _) dioE
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)P
                             I F xb
                                 (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
          P \times (x. case daT,xT,xaT,xaaT of P)T | _ (x. dio)E,
  xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
          | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                    | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                    | (_, b) dioE of
                                                    w)F
                             | _ dioE)
                         (case case (daT,case daT,xaT,deT,xaaT of
                                               P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
                                         daT,case xT,xaT,deT,xaaT of
                                               P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                   | _{-} (x. dio)E) of (P , P ) (w. w = w)F | (P , F ) (w. w = w)F
                                   | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                   | (_, b) dioE of
        (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
        | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)P
                                 (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
          P \times (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
          | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                    \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                    | (_, b) dioE of
                                                    w)F
                             | _ dioE)
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(case case (daT,case daT,xaT,xaaT,deT of
                                          P x (x. case daT,xaT,xaaT,xT of P )T
                                          | _ (x. dio)E,
                                    daT, case xT, xaT, xaaT, deT of
                                         P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                | \ \_ \ (x. \ dio)E) \ of \\ (P \ , \ P \ ) \ (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \ (w. \ w = \ w)F 
                               | (P, \_)  dioE | (F, P)  (w. w = w)F
                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                              | (_, b) dioE of
                          P xb
                            (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
       P \times (x. case daT,xaT,xaaT,xT of P)T | _ (x. dio)E,
xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
       | _ (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            | (P, F) (w. w = w)F | (P, _) dioE
                                            | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
                                            w)P
                          I F xb
                             (w. xaaa. case case (xaaaT, case daT, xaT, xaaT, deT of
         P \times (x. case daT,xaT,xaaT,xT of P)T | _ (x. dio)E,
  xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
         | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                              w)F
                         | _ dioE) of
                F w)F
  | _ dioE of
                                                F
                                                   w)F
                                  | _ dioE)
                                 (case case (daT, case xT, deT, daT, daT of
              P xa (xa. case xT,xaT,daT,daT of P )T | _ (x. dio)E,
        daT, case daT, deT, daT of P x (x. case daT, xT, daT, daT of P )T
              | _ (x. dio)E) of
   | (_, b) dioE of
                                                P xa
(w. xa. case case (xaT,case xT,deT,daT,daT of
                         P xa (xa. case xT,xaT,daT,daT of P )T | _ (x. dio)E,
                    xaT, case daT, deT, daT, daT of
                         P \times (x. case daT,xT,daT,daT of P) T | _ (x. dio)E) of
              | (_, b) dioE of
              w)P
                                                | F xa
  (w. xa. case case (xaT,case xT,deT,daT,daT of
                          P xa (xa. case xT,xaT,daT,daT of P )T | _ (x. dio)E,
                      xaT,case daT,deT,daT,daT of
                           P x (x. case daT,xT,daT,daT of P )T
                           | _ (x. dio)E) of
                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
                w)F
                                                | _ dioE)
                                            (case case (daT,case xT,daT,deT,daT of
              P xa (xa. case xT,daT,xaT,daT of P )T | _ (x. dio)E,
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```
daT, case daT, daT, deT, daT of P x (x. case daT, daT, xT, daT of P )T
              | _ (x. dio)E) of
    (P \ , \ P \ ) \quad (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ \_) \quad dioE
    | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
    | (_, b) dioE of
                                                   P xa
 (w. xa. case case (xaT, case xT, daT, deT, daT of
                           P xa (xa. case xT,daT,xaT,daT of P )T | _ (x. dio)E,
                      xaT, case daT, daT, deT, daT of
                | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
                | (_, b) dioE of
               w)P
                                                   | F xa
   (w. xa. case case (xaT,case xT,daT,deT,daT of
                             P xa (xa. case xT,daT,xaT,daT of P )T | _ (x. dio)E,
                        xaT, case daT, daT, deT, daT of
                             P \times (x. case daT, daT, xT, daT of P)T
                             | _ (x. dio)E) of
                 (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE of
                                                  | _ dioE)
                                               (case case (daT, case xT, daT, daT, deT of
               P xa (xa. case xT,daT,daT,xaT of P )T \mid _ (x. dio)E,
          daT, case daT, daT, daT, deT of P x (x. case daT, daT, xT of P )T
    | _ (x. dio)E) of
(P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
    | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
   | (_, b) dioE of
 (w. xa. case case (xaT,case xT,daT,daT,deT of
                           P xa (xa. case xT,daT,daT,xaT of P )T | _ (x. dio)E,
                      xaT,case daT,daT,daT,deT of
                | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
               | (_, b) dioE of
               w)P
                                                   | F xa
   (w. xa. case case (xaT,case xT,daT,daT,deT of
                             P xa (xa. case xT,daT,daT,xaT of P )T | _ (x. dio)E,
                        xaT, case daT, daT, daT, deT of
                             P x (x. case daT,daT,xT of P )T
                             | _ (x. dio)E) of
                  (P \ , \ P \ ) \quad (w. \quad w \ = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \quad w \ = \ w)F \ | \ (P \ , \ \_) \quad dioE
                  | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                  | (F , _) dioE | (_, b) dioE of
                 w)F
                                                  | _ dioE) of
                                          P xa
                                            (w. xa.
case (case case (daT,case xT,deT,daT,xaT of
                        P xb (xaa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
                    daT,case daT,deT,daT,xaT of
              P x (x. case daT,xT,daT,xaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE
             | (_, b) dioE of
        P xb
           (w. xaa. case case (xaaT,case xT,deT,daT,xaT of
                                       P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case daT,deT,daT,xaT of
```

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P x (x. case daT,xT,daT,xaT of P )T
                                      | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | \ (P \ , \ \_) \ \ dioE \ | \ (F \ , \ P \ ) \ \ (w. \ \ w = \ w)F \\ | \ (F \ , \ F \ ) \ \ (w. \ \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE \ | \ (\_, \ b) \ \ dioE \ of 
                        w)P
    | F xb
        (w. xaa. case case (xaaT,case xT,deT,daT,xaT of
                                         P xb (xaa. case xT,xaaT,daT,xaT of P
                                         | _ (x. dio)E,
                                 xaaT,case daT,deT,daT,xaT of
                                        P x (x. case daT,xT,daT,xaT of P )T
                           | \  \  | \  \  (x.\ dio)E) \ of \\ (P\ ,\ P\ ) \  \  (w.\ w\ =\ w)P\ | \  (P\ ,\ F\ ) \  \  (w.\ w\ =\ w)F
                          | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                          w)F
    | _ dioE)
(case case (daT,case xT,daT,deT,xaT of
                       P xb (xaa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
                daT, case daT, daT, deT, xaT of
                      P x (x. case daT,daT,xT,xaT of P )T | \_ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
         | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case xT,daT,deT,xaT of
                                       P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,daT,deT,xaT of
                                      P x (x. case daT,daT,xT,xaT of P )T
                                       | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                        | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                        w)P
    | F xb
        (w. xaa. case case (xaaT,case xT,daT,deT,xaT of
                                         P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                         | _ (x. dio)E,
                                 xaaT,case daT,daT,deT,xaT of
                                        P x (x. case daT,daT,xT,xaT of P )T
                                         | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F
                          | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                          w)F
   | dioE)
(case case (daT,case xT,daT,xaT,deT of
                      P xb (xaa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
                daT, case daT, daT, xaT, deT of
                      P \times (x. case daT, daT, xaT, xT of P) T | (x. dio)E) of
          (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
          | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case xT,daT,xaT,deT of
                                      P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,daT,xaT,deT of
                                      P x (x. case daT,daT,xaT,xT of P )T
                                      | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                        | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
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| F xb
           (w. xaa. case case (xaaT,case xT,daT,xaT,deT of
                                          P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case daT,daT,xaT,deT of
                                           P \times (x. case daT, daT, xaT, xT of P)T
                              | \  \  | \  \  (x. \ dio)E) \ of \\ (P \ , \ P \ ) \  \  (w. \ w = \ w)F \ | \  (P \ , \ F \ ) \  \  (w. \ w = \ w)F 
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                             w)F
       | _ dioE) of
                                           | F xa
                                               (w. xa.
case (case case (daT,case xT,deT,daT,xaT of
                           P xb (xaa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
                     daT, case daT, deT, daT, xaT of
                           P x (x. case daT,xT,daT,xaT of P )T | _ (x. dio)E) of
               | (_, b) dioE of
         P xb
           (w. xaa. case case (xaaT,case xT,deT,daT,xaT of
                                           P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                           | _ (x. dio)E,
                                   xaaT,case daT,deT,daT,xaT of
                                          P x (x. case daT,xT,daT,xaT of P )T
                                          | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                             w)P
         | F xb
              (w. xaa. case case (xaaT,case xT,deT,daT,xaT of
                                             P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                             | _ (x. dio)E,
                                     xaaT,case daT,deT,daT,xaT of
                                             P x (x. case daT,xT,daT,xaT of P )T
                                             | _{-} (x. dio)E) of
                               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                               w)F
         | _ dioE)
     (case case (daT, case xT, daT, deT, xaT of
                           P xb (xaa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
                     daT,case daT,daT,deT,xaT of
              P x (x. case daT,daT,xT,xaT of P )T | _ (x. dio)E) of (P,P) (w. w = w)P | (P,F) (w. w = w)F | (P,_) dioE | (F,P) (w. w = w)F | (F,_) dioE
               | (_, b) dioE of
         P xb
           (w. xaa. case case (xaaT,case xT,daT,deT,xaT of
                                          P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                           | _ (x. dio)E,
                                   xaaT,case daT,daT,deT,xaT of
                                          P x (x. case daT,daT,xT,xaT of P )T
                                           | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                             | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
         | F xb
              (w. xaa. case case (xaaT, case xT, daT, deT, xaT of
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P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                    | _ (x. dio)E,
                              xaaT,case daT,daT,deT,xaT of
                                    P x (x. case daT,daT,xT,xaT of P )T
                                    | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                       | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                       | (_, b) dioE of
                       w)F
   | _ dioE)
(case case (daT,case xT,daT,xaT,deT of
                    P xb (xaa. case xT,daT,xaaT of P )T | _ (x. dio)E,
              daT,case daT,daT,xaT,deT of
                   P x (x. case daT,daT,xaT,xT of P )T | _ (x. dio)E) of
        (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT, case xT, daT, xaT, deT of
                                  P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                  | _ (x. dio)E,
                           xaaT,case daT,daT,xaT,deT of
                                  P x (x. case daT,daT,xaT,xT of P )T
                                  | _ (x. dio)E) of
                     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                     | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                     w)P
   | F xb
       (w. xaa. case case (xaaT, case xT, daT, xaT, deT of
                                    P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                     | _ (x. dio)E,
                              xaaT,case daT,daT,xaT,deT of
                                    P x (x. case daT, daT, xaT, xT of P)T
                                    | _ (x. dio)E) of
                        (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                       | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                       | (_, b) dioE of
                       w)F
   | _ dioE) of
                                 | _ dioE of
                             Рха
                               (w. xa. case case (case case (daT,case xT,deT,xaT,daT of
                    P xb (xaa. case xT,xaaT,xaT,daT of P )T | _ (x. dio)E,
              daT,case daT,deT,xaT,daT of
                    P x (x. case daT,xT,xaT,daT of P )T | \_ (x. dio)E) of
        | (_, b) dioE of
     (w. xaa. case case (xaaT,case xT,deT,xaT,daT of
                                  P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                  | _ (x. dio)E,
                           xaaT,case daT,deT,xaT,daT of
                                  P x (x. case daT,xT,xaT,daT of P )T
                                  | _{-} (x. dio)E) of
                      (P, P) (w. w = w)P | (P, F) (w. w = w)F
                     | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                     w)P
   | F xb
       (w. xaa. case case (xaaT, case xT, deT, xaT, daT of
                                    P xb (xaa. case xT,xaaT,xaT,daT of P )T
```

```
| _ (x. dio)E,
                               xaaT,case daT,deT,xaT,daT of
                                      P x (x. case daT,xT,xaT,daT of P)T
                                      | _ (x. dio)E) of
                         (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                         | (_, b) dioE of
                        w)F
   | _ dioE)
(case case (daT,case xT,xaT,deT,daT of
                     P xb (xaa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
               daT, case daT, xaT, deT, daT of
         P x (x. case daT,xaT,xT,daT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE
         | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                    P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                    | _ (x. dio)E,
                             xaaT,case daT,xaT,deT,daT of
                                   P x (x. case daT,xaT,xT,daT of P )T
                                    | _ (x. dio)E) of
                       (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      w)P
    | F xb
        (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                      P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,xaT,deT,daT of
                                      P x (x. case daT,xaT,xT,daT of P )T
                                      | _ (x. dio)E) of
                         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                         | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                         | (_, b) dioE of
                        w)F
   | _ dioE)
(case case (daT,case xT,xaT,daT,deT of
                     P xb (xaa. case xT,xaT,daT,xaaT of P )T | _ (x. dio)E,
               daT,case daT,xaT,daT,deT of
         | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
         | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT, case xT, xaT, daT, deT of
                                    P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                    | _ (x. dio)E,
                             xaaT,case daT,xaT,daT,deT of
                                    P x (x. case daT,xaT,daT,xT of P )T
                                    | _ (x. dio)E) of
                       (P , P) (w. w = w)P | (P , F) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      w)P
    l F xb
       (w. xaa. case case (xaaT, case xT, xaT, daT, deT of
                                      P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,xaT,daT,deT of
                                      P x (x. case daT,xaT,daT,xT of P)T
                                      | _ (x. dio)E) of
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(P, P) (w. w = w)P | (P, F) (w. w = w)F
                            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                            | (_, b) dioE of
                           w)F
      | _ dioE) of
(w. xaa. case (case case (daT,case xT,deT,xaT,xaaT of
                                      P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                      | _ (x. dio)E,
                                daT,case daT,deT,xaT,xaaT of
                                     P x (x. case daT,xT,xaT,xaaT of P )T
                          | _ (x. dio)E) of
(P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                          | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                     P xb
                      (w. xaaa. case case (xaaaT, case xT, deT, xaT, xaaT of
 P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | \_ (x. dio)E,
                                              xaaaT,case daT,deT,xaT,xaaT of
 P x (x. case daT,xT,xaT,xaaT of P
                                      )T | _ (x. dio)E) of
                                        (P, P) (w. w = w)P
                                        | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                        | (F, F) (w. w = w)F | (F, _) dioE
                                        | (_, b) dioE of
                                        w)P
                     | F xb
                        (w. xaaa. case case (xaaaT, case xT, deT, xaT, xaaT of
   P xb (xaaa. case xT,xaaaT,xaaT,xaaT of P )T | \_ (x. dio)E,
                                                xaaaT,case daT,deT,xaT,xaaT of
                                         )T \mid _ (x. dio)E) of
  P x (x. case daT.xT.xaT.xaaT of P
                                           (P, P) (w. w = w)P
                                           | (P, F) (w. w = w)F | (P, _) dioE
                                           | (F, P) (w. w = w)F
                                           | (F, F) (w. w = w)F | (F, _) dioE
                                          | (_, b) dioE of
                                     F
                                          w)F
                     | _ dioE)
                (case case (daT,case xT,xaT,deT,xaaT of
                                      P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                      | _ (x. dio)E,
                                daT,case daT,xaT,deT,xaaT of
                                      P x (x. case daT,xaT,xT,xaaT of P )T
                          | _{x}(x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F
                          | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                    P xb
                      (w. xaaa. case case (xaaaT, case xT, xaT, deT, xaaT of
 P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
                                              xaaaT,case daT,xaT,deT,xaaT of
                                       )T \mid _ (x. dio)E) of
 P x (x. case daT.xaT.xT.xaaT of P
                                        (P, P) (w. w = w)P
                                        | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                        \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                        | (_, b) dioE of
                                        w)P
                     I F xb
                        (w. xaaa. case case (xaaaT, case xT, xaT, deT, xaaT of
   P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | \_ (x. dio)E,
                                               xaaaT,case daT,xaT,deT,xaaT of
   P x (x. case daT,xaT,xT,xaaT of P
                                        )T | _ (x. dio)E) of
                                          (P, P) (w. w = w)P
                                           | (P, F) (w. w = w)F | (P, _) dioE
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| (F, P) (w. w = w)F 
| (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                          F
                                                w)F
                         l dioE)
                     (case case (daT,case xT,xaT,xaaT,deT of
                                           P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                           | _ (x. dio)E,
                                     daT, case daT, xaT, xaaT, deT of
                                           P x (x. case daT,xaT,xaaT,xT of P )T
                                           | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                           (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
    P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                   xaaaT,case daT,xaT,xaaT,deT of
                                            )T \mid _ (x. dio)E) of
    P x (x. case daT.xaT.xaaT.xT of P
                                              (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                             | (F , F ) (w. w = w)F | (F , _) dioE
| (_, b) dioE of
                                              w)P
                         | F xb
                             (w. xaaa. case case (xaaaT, case xT, xaT, xaaT, deT of
      P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                     xaaaT,case daT,xaT,xaaT,deT of
                                              )T \mid _ (x. dio)E) of
      P x (x. case daT,xaT,xaaT,xT of P
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                | (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                        | _ dioE) of
 | F xb
     (w. xaa. case (case case (daT,case xT,deT,xaT,xaaT of
                                             P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                             | _ (x. dio)E,
                                       daT, case daT, deT, xaT, xaaT of
                                             P x (x. case daT,xT,xaT,xaaT of P )T
                                 | _{-} (x. dio)E) of (P, P) (w. w = w)P|(P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                           P xb
                             (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
      P xb (xaaa. case xT,xaaaT,xaT,xaaT of P
                                                    )T | _ (x. dio)E,
                                                      xaaaT,case daT,deT,xaT,xaaT of
      P x (x. case daT,xT,xaT,xaaT of P
                                              )T | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \label{eq:continuous} | \ (\texttt{P} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} = \ \texttt{w}) \texttt{F} \ | \ (\texttt{P} \ , \ \_) \quad \texttt{dioE}
                                                | (F, P) (w. w = w)F
                                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                | (_, b) dioE of
                                                w)P
                           | F xb
                               (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
        P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
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| (P, F) (w. w = w)F | (P, _) dioE
                                                   | (F, P) (w. w = w)F
                                                   \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                   | (_, b) dioE of
                                                  w)F
                           | _ dioE)
                       (case case (daT, case xT, xaT, deT, xaaT of
                                              P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                              | _ (x. dio)E,
                                        daT, case daT, xaT, deT, xaaT of
                                              P \times (x. case daT,xaT,xT,xaaT of P)T
                                              | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                 | (_, b) dioE of
                           P xb
                             (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
      P xb (xaaa. case xT,xaT,xaaaT,xaaT of P \, )T | \, (x. dio)E,
                                                       xaaaT,case daT,xaT,deT,xaaT of
       P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E) of \\ (P , P ) (w. w = w)P 
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                 | (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                                w)P
                           | F xb
                               (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
        P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
        | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                   | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                             F
                                                   w)F
                           | _ dioE)
                       (case case (daT,case xT,xaT,xaaT,deT of
                                              P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                              | _ (x. dio)E,
                                        daT,case daT,xaT,xaaT,deT of
                                              P x (x. case daT,xaT,xaaT,xT of P )T
                                 | _{-} (x. dio)E) of (P, P) (w. w = w)P|(P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                           P xb
                              (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
      P xb (xaaa. case xT,xaT,xaaT,xaaaT of P
                                                     )T | _ (x. dio)E,
                                                       xaaaT,case daT,xaT,xaaT,deT of
      P x (x. case daT,xaT,xaaT,xT of P
                                               )T | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 \label{eq:continuous} | \ (\texttt{P} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} = \ \texttt{w}) \texttt{F} \ | \ (\texttt{P} \ , \ \_) \quad \texttt{dioE}
                                                 | (F, P) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                | (_, b) dioE of
                                                w)P
                           | F xb
                               (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
        P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
        | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
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| (P, F) (w. w = w)F | (P, _) dioE
                                            | (F, P) (w. w = w)F
                                            | (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
              w)F
| dioE of
                                              Ρ
                                                   w)P
                                  | F xa
                                     (w. xa. case case (case case (daT,case xT,deT,xaT,daT of
                           P xb (xaa. case xT,xaaT,xaT,daT of P )T
                           | _ (x. dio)E,
                     daT, case daT, deT, xaT, daT of
                           P x (x. case daT,xT,xaT,daT of P )T
                           | _ (x. dio)E) of
                (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
                | \ (F \ , \ P \ ) \quad (w. \quad w = \ w)F \ | \ (F \ , \ F \ ) \quad (w. \quad w = \ w)F 
               | (F , _) dioE | (_, b) dioE of
          P xb
            (w. xaa. case case (xaaT,case xT,deT,xaT,daT of
                                         P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                         | _ (x. dio)E,
                                  xaaT,case daT,deT,xaT,daT of
                                         P x (x. case daT,xT,xaT,daT of P )T
                             | \  \  | \  \  (x. \ dio)E) \ of \\ (P \ , \ P \ ) \  \  (w. \ w = \ w)F \ | \  (P \ , \ F \ ) \  \  (w. \ w = \ w)F 
                            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                            | (_, b) dioE of
                            w)P
          | F xb
              (w. xaa. case case (xaaT,case xT,deT,xaT,daT of
                                          P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                           | _ (x. dio)E,
                                    xaaT,case daT,deT,xaT,daT of
                                          P x (x. case daT,xT,xaT,daT of P )T
                                          | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P, \_)  dioE | (F, P)  (w. w = w)F
                              | (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                              w)F
          | _ dioE)
       (case case (daT,case xT,xaT,deT,daT of
                           P xb (xaa. case xT,xaT,xaaT,daT of P )T
                           | _ (x. dio)E,
                     daT,case daT,xaT,deT,daT of
                           P x (x. case daT,xaT,xT,daT of P )T
                           | _ (x. dio)E) of
               | (F , _) dioE | (_, b) dioE of
          P xb
            (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                        P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                         | _ (x. dio)E,
                                  xaaT,case daT,xaT,deT,daT of
                                         P x (x. case daT,xaT,xT,daT of P )T
                                         | _ (x. dio)E) of
                            (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                            \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                            | (_, b) dioE of
                       Р
                            w)P
          | F xb
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(w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                          P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case daT,xaT,deT,daT of
                                         P x (x. case daT,xaT,xT,daT of P )T
                                          | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                             \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                            | (_, b) dioE of
                            w)F
       | _ dioE)
   (case case (daT,case xT,xaT,daT,deT of
                         P xb (xaa. case xT,xaT,daT,xaaT of P )T
                         | _ (x. dio)E,
                   daT, case daT, xaT, daT, deT of
                         P x (x. case daT,xaT,daT,xT of P )T
                         | _ (x. dio)E) of
             (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
             | (F, P) (w. w = w)F | (F, F) (w. w = w)F
            \mid (F , _) dioE \mid (_, b) dioE of
       P vh
         (w. xaa. case case (xaaT, case xT, xaT, daT, deT of
                                        P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                         | _ (x. dio)E,
                                 xaaT,case daT,xaT,daT,deT of
                                        P x (x. case daT,xaT,daT,xT of P )T
                                        | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                           | (_, b) dioE of
                          w)P
       | F xb
           (w. xaa. case case (xaaT,case xT,xaT,daT,deT of
                                          P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case daT,xaT,daT,deT of
                                          P x (x. case daT,xaT,daT,xT of P )T
                                          | _ (x. dio)E) of
                             (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                             | (_, b) dioE of
                            w)F
       | _ dioE) of
(w. xaa. case (case case (daT,case xT,deT,xaT,xaaT of
                                       P xb (xaaa. case xT,xaaaT,xaaT of P )T
                                       | _ (x. dio)E,
                                 daT,case daT,deT,xaT,xaaT of
                                       P \times (x. case daT,xT,xaT,xaaT of P)T
                                       | _ (x. dio)E) of
                           (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                           | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                           | (_, b) dioE of
                       (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
P xb (xaaa. case xT,xaaaT,xaaT,xaaT of P )T | _ (x. dio)E,
                                              xaaaT,case daT,deT,xaT,xaaT of
                                        )T \mid _ (x. dio)E) of
P x (x. case daT,xT,xaT,xaaT of P
                                          (P, P) (w. w = w)P
                                         | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
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| (_, b) dioE of
                           | F xb
                                (w. xaaa. case case (xaaaT, case xT, deT, xaaT, xaaT of
        P xb (xaaa. case xT,xaaaT,xaaT,xaaT of P \, )T | \, (x. dio)E,
xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
                                                   | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                                   w)F
                           | _ dioE)
                       (case case (daT, case xT, xaT, deT, xaaT of
                                              P xb (xaaa. case xT,xaT,xaaaT,xaaT of P
                                              | _ (x. dio)E,
                                        daT, case daT, xaT, deT, xaaT of
                                              P x (x. case daT,xaT,xT,xaaT of P )T
                                              | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, F) (w. w = w)F | (F, F) dioE | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT, case xT, xaT, deT, xaaT of
      P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | \_ (x. dio)E,
                                                       xaaaT,case daT,xaT,deT,xaaT of
                                               )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
      P x (x. case daT,xaT,xT,xaaT of P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                 | (_, b) dioE of
                                                 w)P
                                           Р
                            | F xb
                               (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
        P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
        | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                   | (F, F) (w. w = w)F | (F, _) dioE
                                                   | (_, b) dioE of
                                                   w)F
                           | _ dioE)
                       (case case (daT,case xT,xaT,xaaT,deT of
                                              P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                              | _ (x. dio)E,
                                        daT, case daT, xaT, xaaT, deT of
                                              P x (x. case daT,xaT,xaaT,xT of P )T
                                              | _ (x. dio)E) of
                                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                              (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
      P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                      xaaaT,case daT,xaT,xaaT,deT of
                                               )T | _ (x. dio)E) of
      P x (x. case daT,xaT,xaaT,xT of P
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
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| (_, b) dioE of
                          | F xb
                              (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
        P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                                w)F
                         | _ dioE) of
  | F xb
       (w. xaa. case (case case (daT, case xT, deT, xaaT, xaaT of
                                             P xb (xaaa. case xT,xaaaT,xaaT,xaaT of P )T
                                             | _ (x. dio)E,
                                       daT, case daT, deT, xaT, xaaT of
                                             P x (x. case daT,xT,xaT,xaaT of P )T
                                             | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                 | (_, b) dioE of
                              (w. xaaa. case case (xaaaT, case xT, deT, xaT, xaaT of
        P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                | (_, b) dioE of
                                               w)P
                            | F xb
                                (w. xaaa. case case (xaaaT, case xT, deT, xaT, xaaT of
          P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                           | _ dioE)
                        (case case (daT,case xT,xaT,deT,xaaT of
                                             P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                             | _ (x. dio)E,
                                       daT, case daT, xaT, deT, xaaT of
                                             P x (x. case daT,xaT,xT,xaaT of P )T
                                             | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
        (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
        | _ (x. dio)E) of
                                                (P , P ) (w. w = w)P
                                                | (P, F) (w. w = w)F | (P, _) dioE
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 | (F , P ) (w. w = w)F 
 | (F , F ) (w. w = w)F | (F , _) dioE 
                                             | (_, b) dioE of
                                             w)P
                           | F xb
                               (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
 P xb (xaaa. case xT,xaT,xaaT,xaaT of P )T | _ (x. dio)E, xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
          | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
                                               | (F, P) (w. w = w)F
                                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                               | (_, b) dioE of
                                               w)F
                          | _ dioE)
                       (case case (daT,case xT,xaT,xaaT,deT of
                                           P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                           | _ (x. dio)E,
                                     daT, case daT, xaT, xaaT, deT of
                                           P x (x. case daT,xaT,xaaT,xT of P )T
                                           | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                               | (_, b) dioE of
                             (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
       P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
       | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                             | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                             | (_, b) dioE of
                                             w)P
                          | F xb
                               (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
         P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
  xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
         | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                 | _ dioE) of F w)F
                                               w)F
  | _ dioE of
                                                 F
                                                      w)F
                                   | _ dioE) of
                             Р
                                  w)P
              | F x (w. x. case (case case (daT,case daT,deT,daT,daT of
               P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E,
           daT, case xT, deT, daT, daT of P xa (xa. case xT, xaT, daT, daT of P )T
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
    | (_, b) dioE of
P xa
  (w. xa. case case (xaT, case daT, deT, daT, daT of
                            P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E,
                       xaT,case xT,deT,daT,daT of
                            P xa (xa. case xT,xaT,daT,daT of P )T
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| _ (x. dio)E) of
                (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
                | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                | (F , _) dioE | (_, b) dioE of
                w)P
| F xa
   (w. xa. case case (xaT, case daT, deT, daT, daT of
                             P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E,
                        xaT, case xT, deT, daT, daT of
                             P xa (xa. case xT,xaT,daT,daT of P )T
                             | _ (x. dio)E) of
                  (P, P) (w. w = w)P | (P, F) (w. w = w)F
                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
| _ dioE)
                                              (case case (daT,case daT,daT,deT,daT of
                P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E,
          daT,case xT,daT,deT,daT of P xa (xa. case xT,daT,xaT,daT of P )T
                | _ (x. dio)E) of
    (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE | (_, b) dioE of
  (w. xa. case case (xaT, case daT, daT, deT, daT of
                           P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E,
                      xaT,case xT,daT,deT,daT of
                           P xa (xa. case xT,daT,xaT,daT of P )T
                | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                \mid (F , _) dioE \mid (_, b) dioE of
                w)P
| F xa
   (w. xa. case case (xaT, case daT, daT, deT, daT of
                             P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E,
                        xaT, case xT, daT, deT, daT of
                             P xa (xa. case xT,daT,xaT,daT of P )T
                  | _ (x. dio)E) of
(P, P) (w. w = w)P | (P, F) (w. w = w)F
                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                  w)F
| _ dioE)
                                              (case case (daT,case daT,daT,daT,deT of
                P x (x. case daT,daT,xT of P )T | _ (x. dio)E,
          daT,case xT,daT,daT,deT of P xa (xa. case xT,daT,daT,xaT of P )T
               | _{-} (x. dio)E) of
    (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
    | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
    | (_, b) dioE of
 (w. xa. case case (xaT, case daT, daT, daT, deT of
                           P x (x. case daT,daT,xT of P )T | _ (x. dio)E,
                      xaT,case xT,daT,daT,deT of
                           P xa (xa. case xT,daT,daT,xaT of P )T
                           | _ (x. dio)E) of
                | (F , _) dioE | (_, b) dioE of
               w)P
| F xa
   (w. xa. case case (xaT, case daT, daT, daT, deT of
                             P x (x. case daT,daT,xT of P )T | _ (x. dio)E,
                        xaT,case xT,daT,daT,deT of
                             P xa (xa. case xT,daT,daT,xaT of P )T
```

```
| _ (x. dio)E) of
                  (P, P) (w. w = w)P | (P, F) (w. w = w)F
                  | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                  w)F
| _ dioE) of
                                         P xa
                                           (w. xa.
case (case case (daT, case daT, deT, daT, xaT of
                        P x (x. case daT,xT,daT,xaT of P )T | _ (x. dio)E,
                    daT,case xT,deT,daT,xaT of
                         P xb (xaa. case xT,xaaT,daT,xaT of P )T
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
         P xb
           (w. xaa. case case (xaaT,case daT,deT,daT,xaT of
                                       P x (x. case daT,xT,daT,xaT of P )T
                                       | _ (x. dio)E,
                                xaaT,case xT,deT,daT,xaT of
                                       P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                       | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F
                          | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                          w)P
         | F xb
             (w. xaa. case case (xaaT, case daT, deT, daT, xaT of
                                         P x (x. case daT,xT,daT,xaT of P )T
                                         | _ (x. dio)E,
                                  xaaT,case xT,deT,daT,xaT of
                                         P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                         | _ (x. dio)E) of
                             (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                            | (_, b) dioE of
                            w)F
         | dioE)
      (case case (daT,case daT,daT,deT,xaT of
                         P x (x. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
                    daT,case xT,daT,deT,xaT of
                         P xb (xaa. case xT,daT,xaaT,xaT of P )T
              | _ (x. dio)E) of
(P,P) (w. w = w)P | (P,F) (w. w = w)F | (P,_) dioE
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
         P xb
           (w. xaa. case case (xaaT, case daT, daT, deT, xaT of
                                       P \times (x. case daT, daT, xT, xaT of P)T
                                       | _ (x. dio)E,
                                xaaT,case xT,daT,deT,xaT of
                                       P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                       | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F
                           | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE \ | \ (\_, \ b) \ dioE \ of
                          w)P
         l F xb
             (w. xaa. case case (xaaT,case daT,daT,deT,xaT of
                                         P x (x. case daT,daT,xT,xaT of P )T
                                         | _ (x. dio)E,
                                  xaaT,case xT,daT,deT,xaT of
                                         P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                         | _ (x. dio)E) of
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(P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                                 w)F
            | _ dioE)
       (case case (daT, case daT, daT, xaT, deT of
                             P x (x. case daT,daT,xaT,xT of P )T | _ (x. dio)E,
                       daT, case xT, daT, xaT, deT of
                             P xb (xaa. case xT,daT,xaT,xaaT of P )T
                              | _ (x. dio)E) of
                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                 | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
                 | (_, b) dioE of
              (w. xaa. case case (xaaT,case daT,daT,xaT,deT of
                                            P x (x. case daT,daT,xaT,xT of P )T
                                            | _ (x. dio)E,
                                     xaaT,case xT,daT,xaT,deT of
                                             P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                            | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                               w)P
            | F xb
                (w. xaa. case case (xaaT,case daT,daT,xaT,deT of
                                               P x (x. case daT,daT,xaT,xT of P )T
                                               | _ (x. dio)E,
                                       xaaT,case xT,daT,xaT,deT of
                                               P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                               | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, F) dioE
                                 | (_, b) dioE of
                                 w)F
           | _ dioE) of
       w)P
  Р
                                               | F xa
xa. case (case case (daT,case daT,deT,daT,xaT of
                                P x (x. case daT,xT,daT,xaT of P )T | _ (x. dio)E,
                           daT,case xT,deT,daT,xaT of
                                 P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                 | _ (x. dio)E) of
                    (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                    | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
                 (w. xaa. case case (xaaT,case daT,deT,daT,xaT of
                                                P x (x. case daT,xT,daT,xaT of P )T
                                                | _ (x. dio)E,
                                        xaaT,case xT,deT,daT,xaT of
                                                P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                                | _ (x. dio)E) of
                                  (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                  | (_, b) dioE of
                                  w)P
               l F xb
                   (w. xaa. case case (xaaT,case daT,deT,daT,xaT of
                                                 P x (x. case daT,xT,daT,xaT of P )T
                                                  | _ (x. dio)E,
                                           xaaT,case xT,deT,daT,xaT of
```

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P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                   | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F
                       | (_, b) dioE of
                       w)F
   l dioE)
(case case (daT,case daT,daT,deT,xaT of
                   P x (x. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
              daT,case xT,daT,deT,xaT of
                    P xb (xaa. case xT,daT,xaaT,xaT of P )T
        | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
   P xb
     (w. xaa. case case (xaaT, case daT, daT, deT, xaT of
                                 P x (x. case daT,daT,xT,xaT of P )T
                                 | _ (x. dio)E,
                           xaaT,case xT,daT,deT,xaT of
                                 P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                 | _ (x. dio)E) of
                     (P, P) (w. w = w)P | (P, F) (w. w = w)F
                     | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                     | (_, b) dioE of
                     w)P
   | F xb
       (w. xaa. case case (xaaT,case daT,daT,deT,xaT of
                                   P x (x. case daT,daT,xT,xaT of P )T
                                   | _ (x. dio)E,
                             xaaT,case xT,daT,deT,xaT of
                                   P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                   | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F
                       | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                       | (_, b) dioE of
                       w)F
   | _ dioE)
(case case (daT,case daT,daT,xaT,deT of
                   P x (x. case daT,daT,xaT,xT of P )T | _ (x. dio)E,
              daT,case xT,daT,xaT,deT of
                   P xb (xaa. case xT,daT,xaT,xaaT of P )T
                    | _ (x. dio)E) of
        (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
        | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
     (w. xaa. case case (xaaT,case daT,daT,xaT,deT of
                                 P x (x. case daT,daT,xaT,xT of P )T
                                 | _ (x. dio)E,
                           xaaT,case xT,daT,xaT,deT of
                                 P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                 | _ (x. dio)E) of
                     (P, P) (w. w = w)P | (P, F) (w. w = w)F
                     | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                     | (_, b) dioE of
                     w)P
   l F xb
       (w. xaa. case case (xaaT,case daT,daT,xaT,deT of
                                   P x (x. case daT,daT,xaT,xT of P )T
                                   | _ (x. dio)E,
                            xaaT,case xT,daT,xaT,deT of
```

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P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                      | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | (_, b) dioE of
                         w)F
    | _ dioE) of
                                   | _ dioE of
                               P xa
                                (w. xa. case case (case case (daT,case daT,deT,xaT,daT of
                     P x (x. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
               daT,case xT,deT,xaT,daT of
                     P xb (xaa. case xT,xaaT,xaT,daT of P )T
         | _ (x. dio)E) of
(P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
          | \ (F \ , \ P \ ) \quad (w. \quad w = \ w)F \ | \ (F \ , \ F \ ) \quad (w. \quad w = \ w)F 
         | (F , _) dioE | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT,case daT,deT,xaT,daT of
                                    P x (x. case daT,xT,xaT,daT of P )T
                                    | _ (x. dio)E,
                             xaaT,case xT,deT,xaT,daT of
                                    P xb (xaa. case xT,xaaT,xaT,daT of P )T
                       | \  \  | \  \  (x. \ dio)E) \ of \\ (P \ , \ P \ ) \  \  (w. \ w = \ w)F \ | \  (P \ , \ F \ ) \  \  (w. \ w = \ w)F 
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                      | (_, b) dioE of
                      w)P
   | F xb
        (w. xaa. case case (xaaT,case daT,deT,xaT,daT of
                                     P x (x. case daT,xT,xaT,daT of P )T
                                      | _ (x. dio)E,
                               xaaT,case xT,deT,xaT,daT of
                                     P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                     | _ (x. dio)E) of
                         (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | (P, \_)  dioE | (F, P)  (w. w = w)F
                        \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                        | (_, b) dioE of
                        w)F
   | _ dioE)
(case case (daT,case daT,xaT,deT,daT of
                     P x (x. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
               daT,case xT,xaT,deT,daT of
                     P xb (xaa. case xT,xaT,xaaT,daT of P )T
                     | _ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F
         | (F , _) dioE | (_, b) dioE of
      (w. xaa. case case (xaaT,case daT,xaT,deT,daT of
                                    P x (x. case daT,xaT,xT,daT of P )T
                                    | _ (x. dio)E,
                             xaaT,case xT,xaT,deT,daT of
                                    P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                    | _{-} (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                      | (_, b) dioE of
                      w)P
   | F xb
       (w. xaa. case case (xaaT, case daT, xaT, deT, daT of
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P x (x. case daT,xaT,xT,daT of P )T
                                            | _ (x. dio)E,
                                     xaaT,case xT,xaT,deT,daT of
                                            P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                            | _ (x. dio)E) of
                               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                              | (_, b) dioE of
                              w)F
         | dioE)
     (case case (daT,case daT,xaT,daT,deT of
                           P x (x. case daT,xaT,daT,xT of P )T | \_ (x. dio)E,
                     daT,case xT,xaT,daT,deT of
                           P xb (xaa. case xT,xaT,daT,xaaT of P )T
               | _ (x. dio)E) of
(P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                | \ (F \ , \ P \ ) \quad (w. \quad w = \ w)F \ | \ (F \ , \ F \ ) \quad (w. \quad w = \ w)F 
              | (F , _) dioE | (_, b) dioE of
         P xb
           (w. xaa. case case (xaaT,case daT,xaT,daT,deT of
                                          P x (x. case daT,xaT,daT,xT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case xT,xaT,daT,deT of
                                          P xb (xaa. case xT,xaT,daT,xaaT of P )T
                             | \  \  | \  \  (x. \ dio)E) \ of \\ (P \ , \ P \ ) \  \  (w. \ w = \ w)F \ | \  (P \ , \ F \ ) \  \  (w. \ w = \ w)F 
                            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                            | (_, b) dioE of
                            w)P
         | F xb
              (w. xaa. case case (xaaT,case daT,xaT,daT,deT of
                                           P x (x. case daT,xaT,daT,xT of P )T
                                            | _ (x. dio)E,
                                     xaaT,case xT,xaT,daT,deT of
                                           P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                           | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | (P, \_)  dioE | (F, P)  (w. w = w)F
                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                              | (_, b) dioE of
                              w)F
         | _ dioE) of
P xb
  (w. xaa. case (case case (daT, case daT, deT, xaT, xaaT of
                                         P \times (x. case daT,xT,xaT,xaaT of P)T
                                         | _ (x. dio)E,
                                   daT,case xT,deT,xaT,xaaT of
                                        P xb (xaaa. case xT,xaaaT,xaaT,xaaT of P )T
                            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                            | (_, b) dioE of
                       P xb
                         (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of
   P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                                                 xaaaT,case xT,deT,xaT,xaaT of
   P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | \_ (x. dio)E) of
                                           (P, P) (w. w = w)P
                                           | (P, F) (w. w = w)F | (P, _) dioE
                                           | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                           | (_, b) dioE of
                                           w)P
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| F xb
                                                          (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of
                P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P
               | _ (x. dio)E) of
                                                                                             (P, P) (w. w = w)P
                                                                                            | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                                                            | (F, F) (w. w = w)F | (F, _) dioE
                                                                                            | (_, b) dioE of
                                                                                           w)F
                                                  | _ dioE)
                                          (case case (daT,case daT,xaT,deT,xaaT of
                                                                                    P \times (x. case daT,xaT,xT,xaaT of P)T
                                                                                    | _ (x. dio)E,
                                                                        daT,case xT,xaT,deT,xaaT of
                                                                                    P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                                                                    | _ (x. dio)E) of
                                                            (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                                            | (_, b) dioE of
                                                      (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
           P \times (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
                                                                                                    xaaaT,case xT,xaT,deT,xaaT of
           P xb (xaaa. case xT,xaT,xaaaT,xaaT of P \, )T | _ (x. dio)E) of
                                                                                         (P, P) (w. w = w)P
                                                                                        | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                                                        | (F, F) (w. w = w)F | (F, _) dioE
                                                                                        | (_, b) dioE of
                                                                                        w)P
                                                  | F xb
                                                         (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
                P \times (x. case daT,xaT,xT,xaaT of P)T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                | _ (x. dio)E) of
                                                                                             (P, P) (w. w = w)P
                                                                                            \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                                                            | (F, P) (w. w = w)F
                                                                                            \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                                                            | (_, b) dioE of
                                                                                           w)F
                                                  | _ dioE)
                                           (case case (daT,case daT,xaT,xaaT,deT of
                                                                                    P x (x. case daT,xaT,xaaT,xT of P
                                                                                    | _ (x. dio)E,
                                                                        daT,case xT,xaT,xaaT,deT of
                                                                                    P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                                            (Rada: Gass Ar, Aut, Addi ) (Addi ) (A
                                                            | (_, b) dioE of
                                                  P xb
                                                      (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
           P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
                                                                                                    xaaaT,case xT,xaT,xaaT,deT of
           P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E) of
                                                                                         (P, P) (w. w = w)P
                                                                                         | (P, F) (w. w = w)F | (P, _) dioE
                                                                                        | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                                                        | (_, b) dioE of
                                                                                        w)P
```

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| F xb
                              (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
        P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P
       | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                | (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                                w)F
                         | _ dioE) of
   | F xb
       (w. xaa. case (case case (daT, case daT, deT, xaT, xaaT of
                                              P x (x. case daT,xT,xaT,xaaT of P )T
                                              | _ (x. dio)E,
                                        daT,case xT,deT,xaT,xaaT of
                                              P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                 | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                                  | (_, b) dioE of
                              (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
        P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)P
                            | F xb
                               (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of
          P x (x. case daT,xT,xaT,xaaT of P )T | \_ (x. dio)E,
  xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                   | (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                            | _ dioE)
                        (case case (daT,case daT,xaT,deT,xaaT of
                                              P x (x. case daT,xaT,xT,xaaT of P )T
                                              | _ (x. dio)E,
                                        daT,case xT,xaT,deT,xaaT of
                                              P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                              | _ (x. dio)E) of
                                  (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                              (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
        P \times (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                | (F, F) (w. w = w)F | (F, _) dioE
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| (_, b) dioE of
                                                w)P
                            | F xb
                                (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
          P x (x. case daT,xaT,xT,xaaT of P )T | \_ (x. dio)E,
  xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                            | _ dioE)
                        (case case (daT,case daT,xaT,xaaT,deT of
                                              P x (x. case daT,xaT,xaaT,xT of P )T
                                              | _ (x. dio)E,
                                        daT,case xT,xaT,xaaT,deT of
                                              P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                              | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                 | (_, b) dioE of
                              (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
        P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)P
                            | F xb
                                (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
          P \times (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
  xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                   | (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                  \mid _ dioE) of F w)F
   | _ dioE of
                                                        w)P
                                        l F xa
                                            (w. xa. case case (case case (daT,case daT,deT,xaT,daT of
                                P x (x. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
                          daT, case xT, deT, xaT, daT of
                                P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                | _ (x. dio)E) of
                    (P, P) (w. w = w)P | (P, F) (w. w = w)F
                    | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
              P xb
                (w. xaa. case case (xaaT,case daT,deT,xaT,daT of
                                               P x (x. case daT,xT,xaT,daT of P )T
                                               | _ (x. dio)E,
                                        xaaT,case xT,deT,xaT,daT of
                                               P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                               | _ (x. dio)E) of
```

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(P, P) (w. w = w)P | (P, F) (w. w = w)F
                       | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                       | (_, b) dioE of
                       w)P
    | F xb
        (w. xaa. case case (xaaT, case daT, deT, xaT, daT of
                                       P x (x. case daT,xT,xaT,daT of P )T
                                        | _ (x. dio)E,
                                xaaT,case xT,deT,xaT,daT of
                                       P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                       | _ (x. dio)E) of
                         (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                         | (_, b) dioE of
                         w)F
   | _ dioE)
(case case (daT,case daT,xaT,deT,daT of
                      P x (x. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
                daT,case xT,xaT,deT,daT of
                      P xb (xaa. case xT,xaT,xaaT,daT of P )T
         | (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT,case daT,xaT,deT,daT of
                                     P x (x. case daT,xaT,xT,daT of P )T
                                     | _ (x. dio)E,
                              xaaT,case xT,xaT,deT,daT of
                                     P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                     | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F
                       | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                       | (_, b) dioE of
                       w)P
    | F xb
        (w. xaa. case case (xaaT, case daT, xaT, deT, daT of
                                       P x (x. case daT,xaT,xT,daT of P )T
                                       | _ (x. dio)E,
                                xaaT,case xT,xaT,deT,daT of
                                       P xb (xaa. case xT,xaT,xaaT,daT of P )T
                          | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                         | (_, b) dioE of
                         w)F
    | _ dioE)
(case case (daT,case daT,xaT,daT,deT of
                      P x (x. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
                daT,case xT,xaT,daT,deT of
                      P xb (xaa. case xT,xaT,daT,xaaT of P )T
                      | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
         | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case daT,xaT,daT,deT of
                                     P x (x. case daT,xaT,daT,xT of P )T
                                      | _ (x. dio)E,
                              xaaT,case xT,xaT,daT,deT of
                                     P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                      | _ (x. dio)E) of
```

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(P, P) (w. w = w)P | (P, F) (w. w = w)F
                                    | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                    | (_, b) dioE of
                                    w)P
               | F xb
                    (w. xaa. case case (xaaT, case daT, xaT, daT, deT of
                                                    P x (x. case daT,xaT,daT,xT of P )T
                                                     | _ (x. dio)E,
                                             xaaT,case xT,xaT,daT,deT of
                                                    P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                                    | _ (x. dio)E) of
                                      (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                      | (_, b) dioE of
                                      w)F
                | _ dioE) of
     P xb
        (w. xaa. case (case case (daT, case daT, deT, xaT, xaaT of
                                                 P x (x. case daT,xT,xaT,xaaT of P )T
                                                 | _ (x. dio)E,
                                           daT, case xT, deT, xaT, xaaT of
                                                 P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                                 | _ (x. dio)E) of
                                    (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                    | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                    | (_, b) dioE of
                              P xb
                                (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
         P \times (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
         | _ (x. dio)E) of
                                                    (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                    | (F, P) (w. w = w)F
                                                    | (F , F ) (w. w = w)F | (F , _) dioE
                                                    | (_, b) dioE of
                                                   w)P
                              | F xb
                                  (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
           P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
           | _ (x. dio)E) of
                                                      (P, P) (w. w = w)P
                                                      | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                      | (_, b) dioE of
                                                      w)F
                              | _ dioE)
                          (case case (daT,case daT,xaT,deT,xaaT of
                                                 P x (x. case daT,xaT,xT,xaaT of P )T
                                                 | _ (x. dio)E,
                                           daT, case xT, xaT, deT, xaaT of
                                                 P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                    | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                                    | (_, b) dioE of
                                 (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
         P \times (x. case daT,xaT,xT,xaaT of P)T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
```

```
| _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b) dioE of
                                                    w)P
                              | F xb
                                   (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
          P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
           | _ (x. dio)E) of
                                                      (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                      | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                      | (_, b) dioE of
                                                      w)F
                              | _ dioE)
                          (case case (daT,case daT,xaT,xaaT,deT of
                                                 P x (x. case daT,xaT,xaaT,xT of P )T
                                                 | _ (x. dio)E,
                                           daT, case xT, xaT, xaaT, deT of
                                                 P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                                 | _ (x. dio)E) of
                                    (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                   | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                    | (_, b) dioE of
                              P xb
                                (w. xaaa. case case (xaaaT, case daT, xaT, xaaT, deT of
        P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
        | _ (x. dio)E) of
                                                    (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                    | (F, P) (w. w = w)F
                                                    | (F , F ) (w. w = w)F | (F , _) dioE
                                                    | (_, b) dioE of
                                                   w)P
                              | F xb
                                  (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
           P \times (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
  xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
          | _ (x. dio)E) of
                                                      (P, P) (w. w = w)P
                                                      | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                      | (_, b) dioE of
                                                     w)F
                                                F
                              | _ dioE) of
                         w)P
     | F xb
          (w. xaa. case (case case (daT,case daT,deT,xaT,xaaT of
                                                  P x (x. case daT,xT,xaT,xaaT of P )T
                                                   | _ (x. dio)E,
                                             daT, case xT, deT, xaT, xaaT of
                                                   P xb
                                                     (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                      | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                                      | (_, b) dioE of
```

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(w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
        P \times (x. case daT,xT,xaT,xaaT of P)T | _ (x. dio)E,
xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)P
                            | F xb
                                (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
          P \times (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xT,deT,xaaT,xaaT of P xb (xaaa. case xT,xaaaT,xaaT,xaaT of P )T
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                                  w)F
                            | _ dioE)
                        (case case (daT,case daT,xaT,deT,xaaT of
                                             P x (x. case daT,xaT,xT,xaaT of P )T
                                              | _ (x. dio)E,
                                        daT, case xT, xaT, deT, xaaT of
                                              P xb
                                                (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                  | _ (x. dio)E) of
(P,P) (w. w = w)P | (P,F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                  | (_, b) dioE of
                              (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
        P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
                                                 | (F, P) (w. w = w)F
                                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                | (_, b) dioE of
                                                w)P
                            | F xb
                                (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
          P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                   | (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                            | _ dioE)
                        (case case (daT,case daT,xaT,xaaT,deT of
                                              P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
                                        daT,case xT,xaT,xaaT,deT of
                                              P xb
                                                (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                  (P, P) (w. w = w)P (P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
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| (_, b) dioE of
                                 (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
          P \times (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
  xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
          | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P , F ) (w. w = w)F | (P , _) dioE
                                                    | (F, P) (w. w = w)F
                                                    \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                    | (_, b) dioE of
                                                    w)P
                                I F xb
                                    (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
             P \times (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
    xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P
             | _ (x. dio)E) of
                                                       (P , P) (w. w = w)P
                                                      | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                      | (_, b) dioE of
                         | _ dioE) of w)F
                                                      w)F
                     F
     | _ dioE of
     w)F
                                         | _ dioE)
                  (case case (case case (daT,case xT,deT,daT,daT of P xa (xa. case xT,xaT,daT,daT of P )T | _ (x. dio)E,
            daT, case daT, deT, daT, daT of P x (x. case daT, xT, daT, daT of P )T
                  | _{-} (x. dio)E) of
     (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
  (w. xa. case case (xaT,case xT,deT,daT,daT of
                               P xa (xa. case xT,xaT,daT,daT of P )T | _ (x. dio)E,
                         xaT, case daT, deT, daT, daT of
                               P x (x. case daT,xT,daT,daT of P )T
                               | _ (x. dio)E) of
                  (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F
                  | (F , _) dioE | (_, b) dioE of
                  w)P
| F xa
    (w. xa. case case (xaT,case xT,deT,daT,daT of
                                 P xa (xa. case xT,xaT,daT,daT of P )T
                                  | _ (x. dio)E,
                           xaT, case daT, deT, daT, daT of
                                 P x (x. case daT,xT,daT,daT of P )T
                                 | _ (x. dio)E) of
                    (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                    w)F
| _ dioE)
                                                    (case case (daT, case xT, daT, deT, daT of
                  P xa (xa. case xT,daT,xaT,daT of P )T | \_ (x. dio)E,
            daT, case daT, daT, deT, daT of P x (x. case daT, daT, xT, daT of P
     | _ (x. dio)E) of
(P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
     | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
     | (_, b) dioE of
P xa
  (w. xa. case case (xaT, case xT, daT, deT, daT of
```

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P xa (xa. case xT,daT,xaT,daT of P )T | _ (x. dio)E,
                      xaT, case daT, daT, deT, daT of
                            P x (x. case daT,daT,xT,daT of P )T
                            | _ (x. dio)E) of
                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                | (F , _) dioE | (_, b) dioE of
                w)P
| F xa
   (w. xa. case case (xaT,case xT,daT,deT,daT of
                             P xa (xa. case xT,daT,xaT,daT of P )T
                              | _ (x. dio)E,
                        xaT,case daT,daT,deT,daT of
                             P x (x. case daT,daT,xT,daT of P )T
                              | _ (x. dio)E) of
                  (P, P) (w. w = w)P | (P, F) (w. w = w)F
                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                  w)F
| _ dioE)
                                               (case case (daT,case xT,daT,daT,deT of
                P xa (xa. case xT,daT,daT,xaT of P )T | _ (x. dio)E,
          daT, case daT, daT, daT, deT of P x (x. case daT, daT, daT, xT of P
               | _ (x. dio)E) of
     (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
  (w. xa. case case (xaT,case xT,daT,daT,deT of
                           P xa (xa. case xT,daT,daT,xaT of P )T | _ (x. dio)E,
                      xaT, case daT, daT, daT, deT of
                            P x (x. case daT,daT,daT,xT of P )T
                            | _ (x. dio)E) of
                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                w)P
| F xa
   (w. xa. case case (xaT, case xT, daT, daT, deT of
                             P xa (xa. case xT,daT,daT,xaT of P )T
                              | _ (x. dio)E,
                        xaT, case daT, daT, daT, deT of
                             P x (x. case daT,daT,daT,xT of P )T
                  | _ (x. dio)E) of
(P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                  | (P , _) dioE | (F , P ) (w. w = w)F
                  | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                  w)F
| _ dioE) of
                                         P xa
                                            (w. xa.
 case (case case (daT,case xT,deT,daT,xaT of
                          P xb (xaa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
                    daT,case daT,deT,daT,xaT of
              \label{eq:continuous} | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
              | (_, b) dioE of
         P xb
           (w. xaa. case case (xaaT,case xT,deT,daT,xaT of
                                       P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case daT,deT,daT,xaT of
                                       P x (x. case daT,xT,daT,xaT of P )T
                                       | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F
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| (P, _{)} dioE | (F, P) (w. w = w)F
                      | (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      w)P
    | F xb
        (w. xaa. case case (xaaT,case xT,deT,daT,xaT of
                                      P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,deT,daT,xaT of
                                      P x (x. case daT,xT,daT,xaT of P )T
                                      | _ (x. dio)E) of
                         (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                         | (_, b) dioE of
                        w)F
   | _ dioE)
(case case (daT, case xT, daT, deT, xaT of
                    P xb (xaa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
               daT,case daT,daT,deT,xaT of
                     P x (x. case daT,daT,xT,xaT of P )T | _ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
         | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case xT,daT,deT,xaT of
                                    P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                    | _ (x. dio)E,
                             xaaT,case daT,daT,deT,xaT of
                                    P x (x. case daT,daT,xT,xaT of P )T
                                    | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F
                      \mid (P , _) dioE \mid (F , P ) (w. w = w)F
                      \label{eq:continuous} | \ (F \ , \ F \ ) \quad (w. \quad w \ = \ w)F \ | \ (F \ , \ \_) \quad dioE \ | \ (\_, \ b) \quad dioE \ of
                      w)P
    l F xb
        (w. xaa. case case (xaaT,case xT,daT,deT,xaT of
                                     P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,daT,deT,xaT of
                                      P x (x. case daT,daT,xT,xaT of P )T
                                      | _ (x. dio)E) of
                         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _ ) dioE | (F , _ P ) (w. w = w)F
                         \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                         | (_, b) dioE of
                        w)F
    | _ dioE)
(case case (daT,case xT,daT,xaT,deT of
                     P xb (xaa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
               daT, case daT, daT, xaT, deT of
                     P x (x. case daT,daT,xaT,xT of P )T | _ (x. dio)E) of
         | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case xT,daT,xaT,deT of
                                    P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                    | _ (x. dio)E,
                             xaaT,case daT,daT,xaT,deT of
                                    P x (x. case daT,daT,xaT,xT of P )T
                       | _{-} (x. dio)E) of (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      w)P
    | F xb
```

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(w. xaa. case case (xaaT, case xT, daT, xaT, deT of
                                           P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                           | _ (x. dio)E,
                                     xaaT,case daT,daT,xaT,deT of
                                           P x (x. case daT,daT,xaT,xT of P )T
                                           | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                               | (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                              w)F
          | _ dioE) of
      w)P
 Ρ
                                            | F xa
xa. case (case case (daT,case xT,deT,daT,xaT of
                              P xb (xaa. case xT,xaaT,daT,xaT of P )T
                              | _ (x. dio)E,
                         daT,case daT,deT,daT,xaT of
                              P x (x. case daT,xT,daT,xaT of P )T
                               | _ (x. dio)E) of
                   (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
                   | (F, P) (w. w = w)F | (F, F) (w. w = w)F
| (F, _) dioE | (_, b) dioE of
             P xb
                (w. xaa. case case (xaaT,case xT,deT,daT,xaT of
                                            P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                            | _ (x. dio)E,
                                      xaaT,case daT,deT,daT,xaT of
                                            P x (x. case daT,xT,daT,xaT of P )T
                                            | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | \ (P \ , \ \_) \ \ dioE \ | \ (F \ , \ P \ ) \ \ (w. \ w = \ w)F
                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                | (_, b) dioE of
                                w)P
             | F xb
                  (w. xaa. case case (xaaT,case xT,deT,daT,xaT of
                                              P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                              | _ (x. dio)E,
                                        xaaT,case daT,deT,daT,xaT of
                                              P x (x. case daT,xT,daT,xaT of P )T
                                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                                 w)F
             | _ dioE)
          (case case (daT,case xT,daT,deT,xaT of
                              P xb (xaa. case xT,daT,xaaT,xaT of P )T
                               | _ (x. dio)E,
                         daT,case daT,daT,deT,xaT of
                              P \times (x. case daT, daT, xT, xaT of P)T
                               | _ (x. dio)E) of
                   (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                   | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                   | (F , _) dioE | (_, b) dioE of
             P xb
                (w. xaa. case case (xaaT,case xT,daT,deT,xaT of
                                            P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                            | _ (x. dio)E,
                                      xaaT,case daT,daT,deT,xaT of
                                            P x (x. case daT,daT,xT,xaT of P )T
                                            | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
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| (P, _) dioE | (F, P) (w. w = w)F
                      | (F, F) (w. w = w)F | (F, _) dioE
                      | (_, b) dioE of
                      w)P
     | F xb
         (w. xaa. case case (xaaT,case xT,daT,deT,xaT of
                                    P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                    | _ (x. dio)E,
                              xaaT,case daT,daT,deT,xaT of
                                    P x (x. case daT,daT,xT,xaT of P )T
                                    | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                        | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                        | (_, b) dioE of
                        w)F
     | _ dioE)
  (case case (daT,case xT,daT,xaT,deT of
                     P xb (xaa. case xT,daT,xaT,xaaT of P )T
                     | _ (x. dio)E,
                daT,case daT,daT,xaT,deT of
                     P x (x. case daT,daT,xaT,xT of P )T
                     | _ (x. dio)E) of
          (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
          | (F, P) (w. w = w)F | (F, F) (w. w = w)F
          \mid (F , _) dioE \mid (_, b) dioE of
     P xb
       (w. xaa. case case (xaaT,case xT,daT,xaT,deT of
                                  P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                  | _ (x. dio)E,
                            xaaT,case daT,daT,xaT,deT of
                                  P x (x. case daT,daT,xaT,xT of P )T
                                  | _ (x. dio)E) of
                      (P, P) (w. w = w)P | (P, F) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                      | (_, b) dioE of
                      w)P
     | F xb
         (w. xaa. case case (xaaT,case xT,daT,xaT,deT of
                                    P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                    | _ (x. dio)E,
                              xaaT,case daT,daT,xaT,deT of
                                   P x (x. case daT,daT,xaT,xT of P )T
                        | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                        | (_, b) dioE of
                        w)F
| _ dioE) of w)F
                                 | _ dioE of
                            P xa
                              (w. xa. case case (case case (daT,case xT,deT,xaT,daT of
                    P xb (xaa. case xT,xaaT,xaT,daT of P )T
                    | _ (x. dio)E,
               daT, case daT, deT, xaT, daT of
                    P x (x. case daT,xT,xaT,daT of P )T
                    | _ (x. dio)E) of
         | (F , _) dioE | (_, b) dioE of
      (w. xaa. case case (xaaT,case xT,deT,xaT,daT of
                                 P xb (xaa. case xT,xaaT,xaT,daT of P )T
```

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| _ (x. dio)E,
                              xaaT,case daT,deT,xaT,daT of
                                     P x (x. case daT,xT,xaT,daT of P )T
                                     | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, __) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, __) dioE
                       | (_, b) dioE of
                       w)P
    | F xb
        (w. xaa. case case (xaaT,case xT,deT,xaT,daT of
                                       P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                        | _ (x. dio)E,
                                xaaT,case daT,deT,xaT,daT of
                                       P x (x. case daT,xT,xaT,daT of P )T
                                       | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                          | (_, b) dioE of
                    F
                         w)F
   | _ dioE)
(case case (daT, case xT, xaT, deT, daT of
                     P xb (xaa. case xT,xaT,xaaT,daT of P )T
                      | _ (x. dio)E,
                daT, case daT, xaT, deT, daT of
                      P x (x. case daT,xaT,xT,daT of P )T
                      | _ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F
         | (F , _) dioE | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                     P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                     | _ (x. dio)E,
                              xaaT,case daT,xaT,deT,daT of
                                    P x (x. case daT,xaT,xT,daT of P )T
                                     | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                       \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                       | (_, b) dioE of
                       w)P
   | F xb
        (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                       P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                        | _ (x. dio)E,
                                xaaT,case daT,xaT,deT,daT of
                                       P x (x. case daT,xaT,xT,daT of P )T
                                       | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F
                          \mid (P , _) dioE \mid (F , P ) (w. w = w)F
                         \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                         | (_, b) dioE of
                         w)F
   | _ dioE)
(case case (daT,case xT,xaT,daT,deT of
                      P xb (xaa. case xT,xaT,daT,xaaT of P )T
                      | _ (x. dio)E,
                daT, case daT, xaT, daT, deT of
                      P x (x. case daT,xaT,daT,xT of P )T
                      | _ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
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(w. xaa. case case (xaaT, case xT, xaT, daT, deT of
                                           P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                           | _ (x. dio)E,
                                    xaaT,case daT,xaT,daT,deT of
                                          P x (x. case daT,xaT,daT,xT of P )T
                                          | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                              | (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                              w)P
           | F xb
                (w. xaa. case case (xaaT,case xT,xaT,daT,deT of
                                            P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                             | _ (x. dio)E,
                                      xaaT,case daT,xaT,daT,deT of
                                            P x (x. case daT,xaT,daT,xT of P )T
                                            | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
                                w)F
           | _ dioE) of
  P xb
    (w. xaa. case (case case (daT, case xT, deT, xaT, xaaT of
                                          P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                         | _ (x. dio)E,
                                    daT, case daT, deT, xaT, xaaT of
                                          P \times (x. case daT,xT,xaT,xaaT of P)T
                                          | _ (x. dio)E) of
                              (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                              | (_, b) dioE of
                         P xb
                           (w. xaaa. case case (xaaaT, case xT, deT, xaT, xaaT of
     P xb (xaaa. case xT,xaaaT,xaaT,xaaT of P \, )T | \, (x. dio)E,
                                                 xaaaT,case daT,deT,xaT,xaaT of
     P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                            \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                            | (_, b) dioE of
                                            w)P
                         | F xb
                            (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
       P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | \_ (x. dio)E,
xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
       | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P, F) (w. w = w)F | (P, _) dioE
                                              | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                                         F
                                              w)F
                         | _ dioE)
                     (case case (daT, case xT, xaT, deT, xaaT of
                                          P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                          | _ (x. dio)E,
                                    daT,case daT,xaT,deT,xaaT of
                                         P x (x. case daT,xaT,xT,xaaT of P )T
                                          | _ (x. dio)E) of
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| (F, F) (w. w = w)F | (F, _) dioE
                               | (_, b) dioE of
                         P xb
                            (w. xaaa. case case (xaaaT, case xT, xaT, deT, xaaT of
     P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
                                                  xaaaT,case daT,xaT,deT,xaaT of
                                            )T | _ (x. dio)E) of
     P x (x. case daT,xaT,xT,xaaT of P
                                             (P, P) (w. w = w)P
                                             \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                             | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                             | (_, b) dioE of
                                        Ρ
                                             w)P
                         I F xb
                             (w. xaaa. case case (xaaaT, case xT, xaT, deT, xaaT of
       P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
       | _ (x. dio)E) of
                                               (P , P) (w. w = w)P
                                               \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F, P) (w. w = w)F
                                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                               | (_, b) dioE of
                                               w)F
                         | _ dioE)
                     (case case (daT,case xT,xaT,xaaT,deT of
                                           P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                           | _ (x. dio)E,
                                     daT, case daT, xaT, xaaT, deT of
                                           P x (x. case daT,xaT,xaaT,xT of P )T
                                           | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                         P xb
                           (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
     P xb (xaaa. case xT,xaT,xaaT,xaaaT of P \, )T | \, (x. dio)E,
                                                   xaaaT,case daT,xaT,xaaT,deT of
     P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                             | (F, F) (w. w = w)F | (F, _) dioE
                                             | (_, b) dioE of
                                             w)P
                         | F xb
                             (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
        P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P, F) (w. w = w)F | (P, _) dioE
                                               . . , 1 , (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
| (_, b) dioE of
                     | _ dioE) of w)P
                                               w)F
   I F xb
      (w. xaa. case (case case (daT, case xT, deT, xaT, xaaT of
                                             P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                             | _ (x. dio)E,
                                       daT, case daT, deT, xaT, xaaT of
                                             P x (x. case daT,xT,xaT,xaaT of P )T
                                             | _ (x. dio)E) of
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(P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
        P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                               (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                               | (F, P) (w. w = w)F
                                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                               | (_, b) dioE of
                                               w)P
                            | F xb
                                (w. xaaa. case case (xaaaT, case xT, deT, xaT, xaaT of
          P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                 | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                                 w)F
                            | _ dioE)
                        (case case (daT,case xT,xaT,deT,xaaT of
                                             P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                             | _ (x. dio)E,
                                       daT, case daT, xaT, deT, xaaT of
                                             P x (x. case daT,xaT,xT,xaaT of P )T
                                             | _ (x. dio)E) of
                                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                 | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT, case xT, xaT, deT, xaaT of
        P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                               \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                               w)P
                            | F xb
                               (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
          P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                  | (F, P) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)F
                           | _ dioE)
                        (case case (daT,case xT,xaT,xaaT,deT of
                                             P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                             | _ (x. dio)E,
                                       daT, case daT, xaT, xaaT, deT of
                                             P x (x. case daT,xaT,xaaT,xT of P )T
                                             | _ (x. dio)E) of
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(P, P) (w. w = w)P | (P, F) (w. w = w)F
                                     | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                      | (_, b) dioE of
                                P xb
                                  (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E, xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
         | _ (x. dio)E) of
                                                      (P, P) (w. w = w)P
                                                      | (P , F ) (w. w = w)F | (P , _) dioE
                                                      | (F, P) (w. w = w)F
                                                      \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                      | (_, b) dioE of
                                | F xb
                                    (w. xaaa. case case (xaaaT, case xT, xaT, xaaT, deT of
           P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
  xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
           | _ (x. dio)E) of
                                                         (P, P) (w. w = w)P
                                                        | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                        | (_, b) dioE of
                                                        w)F
                               | _ dioE) of
                     F w)F
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                                                           Р
                                                                w)P
                                                 (w. xa. case case (case case (daT,case xT,deT,xaT,daT of
                                    P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                    | _ (x. dio)E,
                             daT, case daT, deT, xaT, daT of
                                    P x (x. case daT,xT,xaT,daT of P )T
                                    | _ (x. dio)E) of
                      (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                P xb
                   (w. xaa. case case (xaaT,case xT,deT,xaT,daT of
                                                    P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                                     | _ (x. dio)E,
                                             xaaT,case daT,deT,xaT,daT of
                                                    P x (x. case daT,xT,xaT,daT of P )T
                                                    | _ (x. dio)E) of
                                      (P \ , \ P \ ) \quad (w. \quad w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \quad w = \ w)F
                                      \mid (P , _) dioE \mid (F , P ) (w. w = w)F
                                      \label{eq:continuous} | \ (\texttt{F} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} \ \texttt{=} \ \ \texttt{w}) \texttt{F} \ | \ (\texttt{F} \ , \ \_) \quad \texttt{dioE}
                                      | (_, b) dioE of
                                     w)P
                | F xb
                     (w. xaa. case case (xaaT,case xT,deT,xaT,daT of
                                                       P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                                       | _ (x. dio)E,
                                               xaaT,case daT,deT,xaT,daT of
                                                       P x (x. case daT,xT,xaT,daT of P )T
                                        | _ (x. dio)E) of
(P, P) (w. w = w)P | (P, F) (w. w = w)F
                                        | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                        | (_, b) dioE of
                                        w)F
                | _ dioE)
            (case case (daT,case xT,xaT,deT,daT of
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P xb (xaa. case xT,xaT,xaaT,daT of P )T
                      | _ (x. dio)E,
                daT,case daT,xaT,deT,daT of
                      P x (x. case daT,xaT,xT,daT of P )T
                      | _ (x. dio)E) of
          (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
         | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                      P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,xaT,deT,daT of
                                      P x (x. case daT,xaT,xT,daT of P )T
                                      | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                        \label{eq:continuous} | \ (P \ , \ \_) \quad \mbox{dioE} \ | \ (F \ , \ P \ ) \quad (\mbox{w} \ = \ \mbox{w})F
                        | (F , F ) (w. w = w)F | (F , _) dioE
                        | (_, b) dioE of
                        w)P
    | F xb
        (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                        P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                         | _ (x. dio)E,
                                 xaaT,case daT,xaT,deT,daT of
                                        P x (x. case daT,xaT,xT,daT of P )T
                                         | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F
                          | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                          | (_, b) dioE of
                          w)F
    | _ dioE)
(case case (daT,case xT,xaT,daT,deT of
                      P xb (xaa. case xT,xaT,daT,xaaT of P )T
                       | _ (x. dio)E,
                daT, case daT, xaT, daT, deT of
                      P x (x. case daT,xaT,daT,xT of P )T
         (P, P) (w. w = w)P | (P, F) (w. w = w)F
         | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case xT,xaT,daT,deT of
                                      P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,xaT,daT,deT of
                                      P x (x. case daT,xaT,daT,xT of P )T
                         | \  \  | \  \  (x.\ dio)E) \ of \\ (P\ ,\ P\ ) \  \  (w.\ w\ =\ w)P\ | \  (P\ ,\ F\ ) \  \  (w.\ w\ =\ w)F
                        | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                        | (_, b) dioE of
                        w)P
    | F xb
        (w. xaa. case case (xaaT,case xT,xaT,daT,deT of
                                        P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                         | _ (x. dio)E,
                                 xaaT,case daT,xaT,daT,deT of
                                        P x (x. case daT,xaT,daT,xT of P )T
                          | _{-} (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F
                          | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                          | (_, b) dioE of
                          w)F
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| _ dioE) of
     P xb
        (w. xaa. case (case case (daT,case xT,deT,xaT,xaaT of
                                                 P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                                 | _ (x. dio)E,
                                           daT, case daT, deT, xaT, xaaT of
                                                 P x (x. case daT,xT,xaT,xaaT of P )T
                                                 | _ (x. dio)E) of
                                    (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                    | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                    | (_, b) dioE of
                              P xb
                                 (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
         P xb (xaaa. case xT,xaaaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
         | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b)  dioE of
                                                    w)P
                              | F xb
                                   (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
           P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
           | _ (x. dio)E) of
                                                      (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                      | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                      | (_, b) dioE of
                                                     w)F
                              | _ dioE)
                          (case case (daT,case xT,xaT,deT,xaaT of
                                                 P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                                 | _ (x. dio)E,
                                           daT, case daT, xaT, deT, xaaT of
                                                P x (x. case daT,xaT,xT,xaaT of P )T
                                                 | _ (x. dio)E) of
                                    (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                    | (P , _) dioE | (F , P ) (w. w = w)F
                                    \label{eq:continuous} | \ (\texttt{F} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} = \ \texttt{w}) \texttt{F} \ | \ (\texttt{F} \ , \ \_) \quad \texttt{dioE}
                                    | (_, b) dioE of
                                 (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
        P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T \mid _ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
        | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                    \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                    | (_, b) dioE of
                                                   w)P
                                   (w. xaaa. case case (xaaaT, case xT, xaT, deT, xaaT of
           P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
           | _ (x. dio)E) of
                                                      (P, P) (w. w = w)P
                                                      | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                      | (_, b) dioE of
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F w)F
                            | _ dioE)
                        (case case (daT,case xT,xaT,xaaT,deT of
                                              P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                              | _ (x. dio)E,
                                        daT, case daT, xaT, xaaT, deT of
                                              P x (x. case daT,xaT,xaaT,xT of P )T
                                              | _ (x. dio)E) of
                                  (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                            P xb
                               (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
        P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b)  dioE of
                                                w)P
                            | F xb
                                (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
          P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
  xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
          | _ (x. dio)E) of
                                                  (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                  | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                           | _ dioE) of
     | F xb
         (w. xaa. case (case case (daT, case xT, deT, xaT, xaaT of
                                                  (xaaa. case xT,xaaaT,xaaT,xaaT of P )T
                                                | _ (x. dio)E,
                                          daT, case daT, deT, xaT, xaaT of
                                                P x (x. case daT,xT,xaT,xaaT of P )T
                                                | _ (x. dio)E) of
                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
                                    \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                   | (_, b) dioE of
                              P xb
                                (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
          P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                  | (F, P) (w. w = w)F
                                                  | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
                                                  | (_, b) dioE of
                                                  w)P
                              I F xb
                                  (w. xaaa. case case (xaaaT, case xT, deT, xaT, xaaT of
            P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | \_ (x. dio)E,
    xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
            | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                     | (P, F) (w. w = w)F | (P, _) dioE
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| (F, P) (w. w = w)F
                                                                                                    | (F , F ) (w. w = w)F | (F , _) dioE
                                                                                                    | (_, b) dioE of
                                                                                                    w)F
                                                        | dioE)
                                                (case case (daT,case xT,xaT,deT,xaaT of
                                                                                                (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                                                                            | _ (x. dio)E,
                                                                                daT, case daT, xaT, deT, xaaT of
                                                                                           P x (x. case daT,xaT,xT,xaaT of P )T
                                                                  (P, P) (w. w = w)F | (F, F) (w
                                                                  | (_, b) dioE of
                                                        P xb
                                                            (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
                P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P
                | _ (x. dio)E) of
                                                                                                (P, P) (w. w = w)P
                                                                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                                                                | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
                                                                                                | (_, b) dioE of
                                                                                                w)P
                                                        | F xb
                                                                (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
                    P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
    xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
                    | _ (x. dio)E) of
                                                                                                     (P, P) (w. w = w)P
                                                                                                    | (P, F) (w. w = w)F | (P, _) dioE
                                                                                                    | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                                                                    | (_, b) dioE of
                                                                                                    w)F
                                                        | _ dioE)
                                                (case case (daT,case xT,xaT,xaaT,deT of
                                                                                           P xb
                                                                                               (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                                                                            | _ (x. dio)E,
                                                                                daT, case daT, xaT, xaaT, deT of
                                                                                           P x (x. case daT,xaT,xaaT,xT of P )T
                                                                                            | _ (x. dio)E) of
                                                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                                                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                                   | (_, b) dioE of
                                                        P xb
                                                             (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
                P xb (xaaa. case xT,xaT,xaaT,xaaaT of P \, )T | \, (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
                | _ (x. dio)E) of
                                                                                                (P, P) (w. w = w)P
                                                                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                                                                | (_, b) dioE of
                                                                                                w)P
                                                        | F xb
                                                                (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
                    P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
    xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
                    | _ (x. dio)E) of
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(P, P) (w. w = w)P
                                               \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                     | _ dioE) of w)F
                                          F
                                               w)F
    | _ dioE of
    w)F
                                   | _ dioE) of
                                  w)F
            | _{-} dioE of
        P x (w. x. case case (case case (daT,case xT,deT,daT,daT of
            P xa (xa. case xT,xaT,daT,daT of P )T | _ (x. dio)E,
        daT, case daT, deT, daT, daT of P x (x. case daT, xT, daT, daT of P
             | _ (x. dio)E) of
  (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
  | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
  | (_, b) dioE of
(w. xa. case case (xaT,case xT,deT,daT,daT of
                        P xa (xa. case xT,xaT,daT,daT of P )T | _ (x. dio)E,
                   xaT,case daT,deT,daT,daT of
                         P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E) of
              | (_, b) dioE of
             w)P
                                               | F xa
 (w. xa. case case (xaT,case xT,deT,daT,daT of
                          P xa (xa. case xT,xaT,daT,daT of P )T | _ (x. dio)E,
                     xaT, case daT, deT, daT, daT of
                           P x (x. case daT,xT,daT,daT of P )T
                           | _ (x. dio)E) of
               \mid (F , _) dioE \mid (_, b) dioE of
               w)F
                                              | _ dioE)
                                          (case case (daT,case xT,daT,deT,daT of
             P xa (xa. case xT,daT,xaT,daT of P )T | _ (x. dio)E,
        daT, case daT, daT, deT, daT of P x (x. case daT, daT, xT, daT of P )T
              | _ (x. dio)E) of
  (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
  | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
  | (_, b) dioE of
                                               P xa
(w. xa. case case (xaT,case xT,daT,deT,daT of
                       P xa (xa. case xT,daT,xaT,daT of P )T | _ (x. dio)E,
                   xaT,case daT,daT,deT,daT of
              P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE
              | (_, b) dioE of
             w)P
                                               | F xa
 (w. xa. case case (xaT,case xT,daT,deT,daT of
                          P xa (xa. case xT,daT,xaT,daT of P )T | _ (x. dio)E,
                     xaT, case daT, daT, deT, daT of
                          P x (x. case daT,daT,xT,daT of P )T
                           | _ (x. dio)E) of
               \label{eq:force_force} | \ (\texttt{F} \ , \ \_) \ \ \texttt{dioE} \ | \ (\_, \ \texttt{b}) \ \ \texttt{dioE} \ \texttt{of}
               w)F
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| _ dioE)
                                                (case case (daT,case xT,daT,daT,deT of
                P xa (xa. case xT,daT,daT,xaT of P )T \mid _ (x. dio)E,
          daT, case daT, daT, daT, deT of P x (x. case daT, daT, xT of P
               | _ (x. dio)E) of
    (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
    | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
    | (_, b) dioE of
 (w. xa. case case (xaT, case xT, daT, daT, deT of
                           P xa (xa. case xT,daT,daT,xaT of P )T | _ (x. dio)E,
                      xaT,case daT,daT,daT,deT of
                           P \times (x. case daT, daT, xT of P)T | (x. dio)E) of
                (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE
                | (_, b) dioE of
                w)P
                                                    | F xa
   (w. xa. case case (xaT,case xT,daT,daT,deT of
                              P xa (xa. case xT,daT,daT,xaT of P )T | _ (x. dio)E,
                        xaT, case daT, daT, daT, deT of
                              P x (x. case daT,daT,xT of P )T
                              | _ (x. dio)E) of
                  (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                  | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                  \mid (F , _) dioE \mid (_, b) dioE of
                 w)F
                                                   | _ dioE) of
                                          P xa
                                             (w. xa.
case (case case (daT,case xT,deT,daT,xaT of
                          P xb (xaa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
                    daT, case daT, deT, daT, xaT of
                         P x (x. case daT,xT,daT,xaT of P )T | _ (x. dio)E) of
              (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE
              | (_, b) dioE of
         P xb
           (w. xaa. case case (xaaT, case xT, deT, daT, xaT of
                                        P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case daT,deT,daT,xaT of
                                        P x (x. case daT,xT,daT,xaT of P )T
                                        | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                           | (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                           w)P
         | F xb
             (w. xaa. case case (xaaT, case xT, deT, daT, xaT of
                                          P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                          | _ (x. dio)E,
                                   xaaT.case daT.deT.daT.xaT of
                                          P x (x. case daT,xT,daT,xaT of P )T
                                          | _ (x. dio)E) of
                             (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                             w)F
         | _ dioE)
     (case case (daT, case xT, daT, deT, xaT of
                         P xb (xaa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
                    daT,case daT,daT,deT,xaT of
                         P x (x. case daT,daT,xT,xaT of P )T | \_ (x. dio)E) of
              (P\ ,\ P\ )\  \  (w.\ w\ =\ w)P\ |\  (P\ ,\ F\ )\  \  (w.\ w\ =\ w)F\ |\  (P\ ,\ \_)\  \  dioE
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
```

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(w. xaa. case case (xaaT,case xT,daT,deT,xaT of
                                       P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                       | _ (x. dio)E,
                                xaaT,case daT,daT,deT,xaT of
                                       P x (x. case daT,daT,xT,xaT of P )T
                                       | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F
                          | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
       | F xb
           (w. xaa. case case (xaaT,case xT,daT,deT,xaT of
                                         P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                         | _ (x. dio)E,
                                  xaaT,case daT,daT,deT,xaT of
                                        P x (x. case daT,daT,xT,xaT of P )T
                                         | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                            w)F
       | _ dioE)
   (case case (daT,case xT,daT,xaT,deT of
                        P xb (xaa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
                  daT,case daT,daT,xaT,deT of
                        P x (x. case daT,daT,xaT,xT of P )T | _ (x. dio)E) of
            (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE
            | (_, b) dioE of
       P xb
         (w. xaa. case case (xaaT,case xT,daT,xaT,deT of
                                       P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                       | _ (x. dio)E,
                                xaaT,case daT,daT,xaT,deT of
                                      P x (x. case daT,daT,xaT,xT of P )T
                                       | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                          | (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
       | F xb
           (w. xaa. case case (xaaT,case xT,daT,xaT,deT of
                                         P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                         | _ (x. dio)E,
                                  xaaT,case daT,daT,xaT,deT of
                                         P x (x. case daT,daT,xaT,xT of P )T
                                         | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                            w)F
      | _ dioE) of
w)P
                                         | F xa
case (case case (daT,case xT,deT,daT,xaT of
                          P xb (xaa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
                    daT, case daT, deT, daT, xaT of
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
         P xb
           (w. xaa. case case (xaaT, case xT, deT, daT, xaT of
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| (\_, b) dioE of

```
P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                      | _ (x. dio)E,
                              xaaT,case daT,deT,daT,xaT of
                                      P x (x. case daT,xT,daT,xaT of P )T
                                      | _ (x. dio)E) of
                        (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                        | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                        w)P
    | F xb
        (w. xaa. case case (xaaT,case xT,deT,daT,xaT of
                                        P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case daT,deT,daT,xaT of
                                        P x (x. case daT,xT,daT,xaT of P )T
                                        | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, F) (w. w = w)F | (F, F) dioE
                          | (_, b) dioE of
                    F
                          w)F
    | _ dioE)
(case case (daT, case xT, daT, deT, xaT of
                      P xb (xaa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
                daT, case daT, daT, deT, xaT of
          \label{eq:problem} P \ x \ (x. \ case \ daT, daT, xT, xaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ dioE
          | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
         | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT, case xT, daT, deT, xaT of
                                      P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,daT,deT,xaT of
                                      P x (x. case daT,daT,xT,xaT of P )T
                                      | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                        | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                        w)P
    | F xb
        (w. xaa. case case (xaaT, case xT, daT, deT, xaT of
                                       P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                         | _ (x. dio)E,
                                 xaaT,case daT,daT,deT,xaT of
                                        P x (x. case daT,daT,xT,xaT of P )T
                                        | _ (x. dio)E) of
                          (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                          | \ (P \ , \ \_) \ \ dioE \ | \ (F \ , \ P \ ) \ \ (w. \ w = \ w)F
                          | (F, F) (w. w = w)F | (F, _) dioE
                          | (_, b) dioE of
                          w)F
    | _ dioE)
(case case (daT,case xT,daT,xaT,deT of
                      P xb (xaa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
                daT, case daT, daT, xaT, deT of
                      P x (x. case daT,daT,xaT,xT of P )T | _ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
          | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case xT,daT,xaT,deT of
                                     P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,daT,xaT,deT of
                                      P x (x. case daT,daT,xaT,xT of P )T
```

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| _ (x. dio)E) of
                      (P, P) (w. w = w)P | (P, F) (w. w = w)F
                     | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                     w)P
   | F xb
       (w. xaa. case case (xaaT,case xT,daT,xaT,deT of
                                    P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                    | _ (x. dio)E,
                             xaaT,case daT,daT,xaT,deT of
                                    P x (x. case daT,daT,xaT,xT of P )T
                                    | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
                       | (_, b) dioE of
                       w)F
   | _ dioE) of
                                  | _ dioE of
                               (w. xa. case case (case case (daT,case xT,deT,xaT,daT of
                    P xb (xaa. case xT,xaaT,xaT,daT of P )T | _ (x. dio)E,
              daT, case daT, deT, xaT, daT of
                    P \times (x. case daT,xT,xaT,daT of P )T | _ (x. dio)E) of
        | (_, b) dioE of
   P xb
     (w. xaa. case case (xaaT,case xT,deT,xaT,daT of
                                 P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                  | _ (x. dio)E,
                           xaaT,case daT,deT,xaT,daT of
                                 P x (x. case daT,xT,xaT,daT of P )T
                                  | _ (x. dio)E) of
                     (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                     w)P
   | F xb
       (w. xaa. case case (xaaT,case xT,deT,xaT,daT of
                                    P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                    | _ (x. dio)E,
                             xaaT,case daT,deT,xaT,daT of
                                    P x (x. case daT,xT,xaT,daT of P )T
                                    | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                       | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                       | (_, b) dioE of
                       w)F
   | _ dioE)
(case case (daT, case xT, xaT, deT, daT of
                    P xb (xaa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
              daT,case daT,xaT,deT,daT of
                   P x (x. case daT,xaT,xT,daT of P )T | _ (x. dio)E) of
        | (_, b) dioE of
   P xb
     (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                 P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                  | _ (x. dio)E,
                           xaaT,case daT,xaT,deT,daT of
                                  P \times (x. case daT,xaT,xT,daT of P)T
                                  | _ (x. dio)E) of
```

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(P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                           | (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                           w)P
         I F xb
             (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                           P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                           | _ (x. dio)E,
                                    xaaT,case daT,xaT,deT,daT of
                                           P x (x. case daT,xaT,xT,daT of P )T
                                           | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                              | (_, b) dioE of
                             w)F
         | _ dioE)
     (case case (daT,case xT,xaT,daT,deT of
                          P xb (xaa. case xT,xaT,daT,xaaT of P )T | \_ (x. dio)E,
                    daT, case daT, xaT, daT, deT of
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
         P xb
           (w. xaa. case case (xaaT, case xT, xaT, daT, deT of
                                         P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                         | _ (x. dio)E,
                                  xaaT,case daT,xaT,daT,deT of
                                        P x (x. case daT,xaT,daT,xT of P )T
                                        | _ (x. dio)E) of
                            (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                            | (P, \_)  dioE | (F, P)  (w. w = w)F
                           | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                           w)P
         | F xb
             (w. xaa. case case (xaaT,case xT,xaT,daT,deT of
                                           P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                           | _ (x. dio)E,
                                    xaaT,case daT,xaT,daT,deT of
                                          P x (x. case daT,xaT,daT,xT of P )T
                               | \  \  | \  \  (x. \ dio)E) \ of \\ (P \ , \ P \ ) \  \  (w. \ w = \ w)F \ | \  (P \ , \ F \ ) \  \  (w. \ w = \ w)F 
                              | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                             w)F
         | _ dioE) of
P xb
  (w. xaa. case (case case (daT,case xT,deT,xaT,xaaT of
                                        P xb (xaaa. case xT,xaaaT,xaT,xaaT of P \, )T
                                        | _ (x. dio)E,
                                  daT, case daT, deT, xaT, xaaT of
                                       P x (x. case daT,xT,xaT,xaaT of P )T
                            | _ (x. dio)E) of
(P, P) (w. w = w)P | (P, F) (w. w = w)F
                           | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                        (w. xaaa. case case (xaaaT, case xT, deT, xaT, xaaT of
   P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T \mid (x. dio)E,
                                               xaaaT,case daT,deT,xaT,xaaT of
   P x (x. case daT,xT,xaT,xaaT of P
                                         )T | _ (x. dio)E) of
                                          (P, P) (w. w = w)P
                                          | (P, F) (w. w = w)F | (P, _) dioE
                                          | (F, P) (w. w = w)F
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```
| (F, F) (w. w = w)F | (F, _) dioE
                                       | (_, b) dioE of
                                       w)P
                    | F xb
                       (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
 P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | _ (x. dio)E,
                                              xaaaT,case daT,deT,xaT,xaaT of
 P x (x. case daT,xT,xaT,xaaT of P
                                        )T | _ (x. dio)E) of
                                          (P, P) (w. w = w)P
                                          | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                          | (F, F) (w. w = w)F | (F, _) dioE
                                         | (_, b) dioE of
                                    F
                                         w)F
                    | _ dioE)
               (case case (daT, case xT, xaT, deT, xaaT of
                                     P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                     | _ (x. dio)E,
                               daT,case daT,xaT,deT,xaaT of
                                     P x (x. case daT,xaT,xT,xaaT of P )T
                                     | _ (x. dio)E) of
                         (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                    P xb
                      (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
P xb (xaaa. case xT,xaT,xaaaT,xaaT of P \, )T | \, (x. dio)E,
                                             xaaaT,case daT,xaT,deT,xaaT of
                                      )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
P x (x. case daT,xaT,xT,xaaT of P
                                        \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                       | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                       | (_, b) dioE of
                                       w)P
                    | F xb
                       (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
 P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
                                               xaaaT,case daT,xaT,deT,xaaT of
 P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E) of
                                          (P, P) (w. w = w)P
                                          | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                          | (F, F) (w. w = w)F | (F, _) dioE
                                         | (_, b) dioE of
                                         w)F
                   | _ dioE)
               (case case (daT,case xT,xaT,xaaT,deT of
                                     P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                     | _ (x. dio)E,
                               daT, case daT, xaT, xaaT, deT of
                                     P x (x. case daT,xaT,xaaT,xT of P )T
                                     | _ (x. dio)E) of
                         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                        | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                    P xb
                      (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                             xaaaT,case daT,xaT,xaaT,deT of
                                      )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
P x (x. case daT,xaT,xaaT,xT of P
                                        \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                       | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                        | (_, b) dioE of
```

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w)P
                           (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
      P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                  xaaaT,case daT,xaT,xaaT,deT of
      P x (x. case daT,xaT,xaaT,xT of P
                                            )T | _ (x. dio)E) of
                                             (P , P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
                                             | (F, P) (w. w = w)F
                                             | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE
                                             | (_, b) dioE of
                                             w)F
                       | _ dioE) of
                   w)P
 | F xb
     (w. xaa. case (case case (daT, case xT, deT, xaT, xaaT of
                                           P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                           | _ (x. dio)E,
                                     daT,case daT,deT,xaT,xaaT of
                                           P \times (x. case daT,xT,xaT,xaaT of P)T
                                           | _ (x. dio)E) of
                               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                         P xb
                            (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
      P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | _ (x. dio)E,
                                                  xaaaT,case daT,deT,xaT,xaaT of
                                            )T \mid _ (x. dio)E) of
      P x (x. case daT.xT.xaT.xaaT of P
                                             (P, P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                             | (F , F ) (w. w = w)F | (F , _) dioE
                                             | (_, b) dioE of
                                             w)P
                         | F xb
                             (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
        P xb (xaaa. case xT,xaaaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F, P) (w. w = w)F
                                               | (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                               w)F
                         | _ dioE)
                      (case case (daT,case xT,xaT,deT,xaaT of
                                          P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                           | _ (x. dio)E,
                                     daT,case daT,xaT,deT,xaaT of
                                           P x (x. case daT,xaT,xT,xaaT of P )T
                                           | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               \label{eq:continuous} | \ (P \ , \ \_) \quad \mbox{dioE} \ | \ (F \ , \ P \ ) \quad (w. \quad w \ = \ w)F
                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                               | (_, b) dioE of
                            (w. xaaa. case case (xaaaT, case xT, xaT, deT, xaaT of
      P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
                                                  xaaaT,case daT,xaT,deT,xaaT of
      P x (x. case daT,xaT,xT,xaaT of P
                                            )T | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
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| (F, F) (w. w = w)F | (F, _) dioE
                                         | (_, b) dioE of
                                     Р
                                          w)P
                        | F xb
                           (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
       P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | \_ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P
       (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                            | (F, F) (w. w = w)F | (F, _) dioE
                                            | (_, b) dioE of
                                            w)F
                       | _ dioE)
                    (case case (daT,case xT,xaT,xaaT,deT of
                                        P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                        | _ (x. dio)E,
                                  daT,case daT,xaT,xaaT,deT of
                                        P x (x. case daT,xaT,xaaT,xT of P )T
                                        | _ (x. dio)E) of
                             (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                            | (_, b) dioE of
                       P xb
                          (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
     P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                               xaaaT,case daT,xaT,xaaT,deT of
                                         )T \mid _ (x. dio)E) of
     P x (x. case daT,xaT,xaaT,xT of P
                                          (P, P) (w. w = w)P
                                          | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                          | (_, b) dioE of
                                          w)P
                        | F xb
                           (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
       P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
       | _ (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            | (P , F ) (w. w = w)F | (P , _) dioE
                                            | (F, P) (w. w = w)F
                                            \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                           | (_, b) dioE of
                                            w)F
              | _ dioE of
                                             Р
                                                 w)P
                                  | F xa
                                      (w. xa. case case (case case (daT,case xT,deT,xaT,daT of
                           P xb (xaa. case xT,xaaT,xaT,daT of P )T
                           | _ (x. dio)E,
                      daT, case daT, deT, xaT, daT of
                           P x (x. case daT,xT,xaT,daT of P )T
                (F, P) (w. w = w)F | (F, F) (w. w = w)F
                | (F , _) dioE | (_, b) dioE of
           P xb
             (w. xaa. case case (xaaT,case xT,deT,xaT,daT of
                                         P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                         | _ (x. dio)E,
                                  xaaT,case daT,deT,xaT,daT of
```

```
P x (x. case daT,xT,xaT,daT of P )T
                               | _ (x. dio)E) of
                    (P, P) (w. w = w)P | (P, F) (w. w = w)F
                    | (_, b) dioE of
                    w)P
   | F xb
       (w. xaa. case case (xaaT,case xT,deT,xaT,daT of
                                 P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                 | _ (x. dio)E,
                           xaaT,case daT,deT,xaT,daT of
                                 P x (x. case daT,xT,xaT,daT of P )T
                      | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                      | (_, b) dioE of
                     w)F
                 F
   | _ dioE)
(case case (daT,case xT,xaT,deT,daT of
                  P xb (xaa. case xT,xaT,xaaT,daT of P )T
                  | _ (x. dio)E,
             daT, case daT, xaT, deT, daT of
                  P x (x. case daT,xaT,xT,daT of P )T
        | (F, P) (w. w = w)F | (F, F) (w. w = w)F
        | (F , _) dioE | (_, b) dioE of
   P xb
     (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                               P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                | _ (x. dio)E,
                         xaaT,case daT,xaT,deT,daT of
                               P x (x. case daT,xaT,xT,daT of P )T
                               | _ (x. dio)E) of
                    (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                    | (_, b) dioE of
                    w)P
   | F xb
       (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                 P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                 | _ (x. dio)E,
                           xaaT,case daT,xaT,deT,daT of
                                 P x (x. case daT,xaT,xT,daT of P )T
                                 | _ (x. dio)E) of
                     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
                      | (_, b) dioE of
                     w)F
   | _ dioE)
(case case (daT,case xT,xaT,daT,deT of
                  P xb (xaa. case xT,xaT,daT,xaaT of P )T
                   | _ (x. dio)E,
             daT, case daT, xaT, daT, deT of
                  P x (x. case daT,xaT,daT,xT of P )T
                   | _ (x. dio)E) of
        | (F , _) dioE | (_, b) dioE of
     (w. xaa. case case (xaaT,case xT,xaT,daT,deT of
                                P xb (xaa. case xT,xaT,daT,xaaT of P )T
```

```
| _ (x. dio)E,
                                       xaaT,case daT,xaT,daT,deT of
                                              P x (x. case daT,xaT,daT,xT of P )T
                                              | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, __) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, __) dioE
                                | (_, b) dioE of
                                w)P
            | F xb
                 (w. xaa. case case (xaaT,case xT,xaT,daT,deT of
                                                P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                                | _ (x. dio)E,
                                         xaaT,case daT,xaT,daT,deT of
                                                P x (x. case daT,xaT,daT,xT of P )T
                                                | _ (x. dio)E) of
                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                  | (_, b) dioE of
                                  w)F
            | _ dioE) of
   P xb
     (w. xaa. case (case case (daT,case xT,deT,xaT,xaaT of
                                             P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                             | _ (x. dio)E,
                                       daT,case daT,deT,xaT,xaaT of
                                            P x (x. case daT,xT,xaT,xaaT of P )T
                                | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                                | (_, b) dioE of
                             (w. xaaa. case case (xaaaT, case xT, deT, xaT, xaaT of
      P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | _ (x. dio)E,
                                                     xaaaT,case daT,deT,xaT,xaaT of
      P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F, P) (w. w = w)F
                                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                               | (_, b) dioE of
                                          Ρ
                                               w)P
                           | F xb
                               (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
        P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T \mid (x. dio)E,
xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                  \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)F
                           | _ dioE)
                       (case case (daT,case xT,xaT,deT,xaaT of
                                             P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                             | _ (x. dio)E,
                                       daT,case daT,xaT,deT,xaaT of
                                            P x (x. case daT,xaT,xT,xaaT of P )T
                                             | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
```

```
P xb
                            (w. xaaa. case case (xaaaT, case xT, xaT, deT, xaaT of
      P xb (xaaa. case xT,xaT,xaaaT,xaaT of P \, )T | \, (x. dio)E,
                                                    xaaaT,case daT,xaT,deT,xaaT of
                                             )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
      P x (x. case daT,xaT,xT,xaaT of P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                              | (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                                              w)P
                          | F xb
        (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P \, )T | _ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                         | _ dioE)
                      (case case (daT,case xT,xaT,xaaT,deT of
                                            P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                            | _ (x. dio)E,
                                      daT,case daT,xaT,xaaT,deT of
                                            P x (x. case daT,xaT,xaaT,xT of P )T
                               | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                               | (_, b) dioE of
                            (w. xaaa. case case (xaaaT, case xT, xaT, xaaT, deT of
      P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                   xaaaT,case daT,xaT,xaaT,deT of
      P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F, P) (w. w = w)F
                                              | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
                                              | (_, b) dioE of
                                         Ρ
                                              w)P
                          | F xb
                              (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
        P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                         | _ dioE) of
                Р
   | F xb
       (w. xaa. case (case case (daT,case xT,deT,xaT,xaaT of
                                              P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                              | _ (x. dio)E,
                                        daT,case daT,deT,xaT,xaaT of
                                             P x (x. case daT,xT,xaT,xaaT of P )T
                                 | (P, _) dioE | (F, P) (w. w = w)F
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| (F, F) (w. w = w)F | (F, _) dioE
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
        P xb (xaaa. case xT,xaaaT,xaT,xaaT of P \, )T | \, (x. dio)E,
xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P, F) (w. w = w)F | (P, _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                               w)P
                            I F xb
                                (w. xaaa. case case (xaaaT, case xT, deT, xaaT, xaaT of
          P xb (xaaa. case xT,xaaaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
         | _ (x. dio)E) of
                                                 (P , P) (w. w = w)P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 | (F, P) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)F
                            | _ dioE)
                       (case case (daT,case xT,xaT,deT,xaaT of
                                             P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                             | _ (x. dio)E,
                                       daT, case daT, xaT, deT, xaaT of
                                             P x (x. case daT,xaT,xT,xaaT of P )T
                                 | _{-} (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 \label{eq:continuous} | \ (P \ , \ \_) \quad \mbox{dioE} \ | \ (F \ , \ P \ ) \quad (w. \quad w \ = \ w)F
                                 | \ (F \ , \ F \ ) \quad (w. \quad w \ = \ w)F \ | \ (F \ , \ \_) \quad dioE
                                 | (_, b) dioE of
                            P xb
                             (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
        P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                               | (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                               w)P
                            | F xb
         (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
          | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 | (F, F) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                 | (_, b) dioE of
                                            F
                                                 w)F
                            | _ dioE)
                       (case case (daT,case xT,xaT,xaaT,deT of
                                             P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                             | _ (x. dio)E,
                                       daT, case daT, xaT, xaaT, deT of
                                             P x (x. case daT,xaT,xaaT,xT of P )T
                                 | (P, _) dioE | (F, P) (w. w = w)F
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```
| (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                          P xb
                            (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
       P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
       | _ (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                            | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
                                            w)P
                          l F xb
                             (w. xaaa. case case (xaaaT, case xT, xaT, xaaT, deT of
         P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
 xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
        | _ (x. dio)E) of
                                              (P , P) (w. w = w)P
                                              | (P, F) (w. w = w)F | (P, _) dioE
                                              | (F, P) (w. w = w)F
                                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                              | (_, b) dioE of
                                              w)F
                         | _ dioE) of
                 F w)F
  | _ dioE of
                                                   w)F
                                  | _ dioE)
                                  (case case (case case (daT, case daT, deT, daT, daT of
              P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E,
        daT, case xT, deT, daT, daT of P xa (xa. case xT, xaT, daT, daT of P
              | _ (x. dio)E) of
   (P \ , \ P \ ) \quad (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ \_) \quad dioE 
  | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                                                P xa
(w. xa. case case (xaT, case daT, deT, daT, daT of
                         P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E,
                    xaT,case xT,deT,daT,daT of
                         P xa (xa. case xT,xaT,daT,daT of P )T
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
              w)P
 (w. xa. case case (xaT,case daT,deT,daT,daT of
                           P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E,
                      xaT,case xT,deT,daT,daT of
                           P xa (xa. case xT,xaT,daT,daT of P )T
                           | _ (x. dio)E) of
                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
               w)F
                                                | _ dioE)
                                            (case case (daT, case daT, daT, deT, daT of
              P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E,
        daT, case xT, daT, deT, daT of P xa (xa. case xT, daT, xaT, daT of P
  | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
  | (_, b) dioE of
                                                P xa
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(w. xa. case case (xaT, case daT, daT, deT, daT of

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P \times (x. case daT, daT, xT, daT of P)T | _ (x. dio)E,
                    xaT,case xT,daT,deT,daT of
                          P xa (xa. case xT,daT,xaT,daT of P )T
                          | _ (x. dio)E) of
               | (_, b) dioE of
              w)P
  (w. xa. case case (xaT,case daT,daT,deT,daT of
                           P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E,
                      xaT,case xT,daT,deT,daT of
                            P xa (xa. case xT,daT,xaT,daT of P )T
                            | _ (x. dio)E) of
                 (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
                | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
                w)F
                                                | _ dioE)
                                            (case case (daT,case daT,daT,daT,deT of
              P \times (x. case daT,daT,daT,xT of P)T |_ (x. dio)E,
         daT, case xT, daT, daT, deT of P xa (xa. case xT, daT, daT, xaT of P
              | _ (x. dio)E) of
    (P \ , \ P \ ) \quad (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ \_) \quad dioE 
   | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE
   | (_, b) dioE of
                                                P xa
 (w. xa. case case (xaT, case daT, daT, daT, deT of
                         P x (x. case daT,daT,xT of P )T | _ (x. dio)E,
                    xaT,case xT,daT,daT,deT of
                         P xa (xa. case xT,daT,daT,xaT of P )T
                          | _ (x. dio)E) of
               (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
               | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
               | (_, b) dioE of
              w)P
                                                | F xa
  (w. xa. case case (xaT, case daT, daT, daT, deT of
                            P x (x. case daT,daT,daT,xT of P )T | _ (x. dio)E,
                      xaT,case xT,daT,daT,deT of
                            P xa (xa. case xT,daT,daT,xaT of P )T
                 | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                \mid (F , _) dioE \mid (_, b) dioE of
                w)F
                                                | _ dioE) of
                                       P xa
                                         (w. xa.
case (case case (daT, case daT, deT, daT, xaT of
                        P x (x. case daT,xT,daT,xaT of P )T | \_ (x. dio)E,
                  daT, case xT, deT, daT, xaT of
                        P xb (xaa. case xT,xaaT,daT,xaT of P )T
                        | _ (x. dio)E) of
             (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
             | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
             | (_, b) dioE of
        P xb
          (w. xaa. case case (xaaT,case daT,deT,daT,xaT of
                                     P x (x. case daT,xT,daT,xaT of P )T
                                     | _ (x. dio)E,
                               xaaT,case xT,deT,daT,xaT of
                                     P xb (xaa. case xT,xaaT,daT,xaT of P )T
                         | (P, \_) \text{ dioE} | (F, P) (w. w = w)F
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| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                     w)P
   l F xb
       (w. xaa. case case (xaaT,case daT,deT,daT,xaT of
                                   P x (x. case daT,xT,daT,xaT of P )T
                                    | _ (x. dio)E,
                             xaaT,case xT,deT,daT,xaT of
                                    P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                    | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                       | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                  F
   | dioE)
(case case (daT, case daT, daT, deT, xaT of
                    P x (x. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
              daT, case xT, daT, deT, xaT of
                    P xb (xaa. case xT,daT,xaaT,xaT of P )T
                    | _{-} (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
        | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
   P xb
     (w. xaa. case case (xaaT, case daT, daT, deT, xaT of
                                  P x (x. case daT,daT,xT,xaT of P )T
                                  | _ (x. dio)E,
                           xaaT,case xT,daT,deT,xaT of
                                  P xb (xaa. case xT,daT,xaaT,xaT of P )T
                     | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                     w)P
   | F xb
       (w. xaa. case case (xaaT,case daT,daT,deT,xaT of
                                   P x (x. case daT,daT,xT,xaT of P )T
                                    | _ (x. dio)E,
                             xaaT,case xT,daT,deT,xaT of
                                    P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                    | _ (x. dio)E) of
                       (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                       | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                       w)F
   | _ dioE)
(case case (daT,case daT,daT,xaT,deT of
                    P x (x. case daT,daT,xaT,xT of P )T | _ (x. dio)E,
              daT, case xT, daT, xaT, deT of
                    P xb (xaa. case xT,daT,xaT,xaaT of P )T
                    | _ (x. dio)E) of
         (P \ , \ P \ ) \quad (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ \_) \quad dioE
        | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
   P xb
     (w. xaa. case case (xaaT,case daT,daT,xaT,deT of
                                 P x (x. case daT,daT,xaT,xT of P )T
                                  | _ (x. dio)E,
                           xaaT,case xT,daT,xaT,deT of
                                 P xb (xaa. case xT,daT,xaT,xaaT of P
                                  | _ (x. dio)E) of
                     (P, P) (w. w = w)P | (P, F) (w. w = w)F
                     | (P , _) dioE | (F , P ) (w. w = w)F
                     | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
   | F xb
       (w. xaa. case case (xaaT, case daT, daT, xaT, deT of
```

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P x (x. case daT,daT,xaT,xT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case xT,daT,xaT,deT of
                                        P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                        | _ (x. dio)E) of
                           (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                           | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                           w)F
      | _ dioE) of
                                        | F xa
                                           (w. xa.
case (case case (daT,case daT,deT,daT,xaT of
                          P x (x. case daT,xT,daT,xaT of P )T | _ (x. dio)E,
                    daT, case xT, deT, daT, xaT of
                          P xb (xaa. case xT,xaaT,daT,xaT of P )T
                          | _ (x. dio)E) of
              (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
         P vh
           (w. xaa. case case (xaaT, case daT, deT, daT, xaT of
                                       P x (x. case daT,xT,daT,xaT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case xT,deT,daT,xaT of
                                        P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                        | _ (x. dio)E) of
                           (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _ ) dioE | (F , P ) (w. w = w)F
                           | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                           w)P
         | F xb
             (w. xaa. case case (xaaT,case daT,deT,daT,xaT of
                                          P x (x. case daT,xT,daT,xaT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case xT,deT,daT,xaT of
                                          P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                          | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                             | (_, b) dioE of
                             w)F
        | _ dioE)
     (case case (daT,case daT,daT,deT,xaT of
                          P x (x. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
                    daT, case xT, daT, deT, xaT of
                          P xb (xaa. case xT,daT,xaaT,xaT of P )T
                          | _ (x. dio)E) of
              (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
        P xb
           (w. xaa. case case (xaaT,case daT,daT,deT,xaT of
                                       P x (x. case daT,daT,xT,xaT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case xT,daT,deT,xaT of
                                       P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                        | _ (x. dio)E) of
                           (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _ ) dioE | (F , P ) (w. w = w)F
                           | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
         | F xb
             (w. xaa. case case (xaaT, case daT, daT, deT, xaT of
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P x (x. case daT,daT,xT,xaT of P )T
                                              | _ (x. dio)E,
                                      xaaT,case xT,daT,deT,xaT of
                                              P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                 | \  \  | \  \  (x. \ dio)E) \ of \\ (P \ , \ P \ ) \  \  (w. \ w = \ w)F \ | \  (P \ , \ F \ ) \  \  (w. \ w = \ w)F 
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
                               w)F
         | _ dioE)
      (case case (daT,case daT,daT,xaT,deT of
                            P \times (x. case daT, daT, xaT, xT of P) T | _ (x. dio)E,
                      daT,case xT,daT,xaT,deT of
                            P xb (xaa. case xT,daT,xaT,xaaT of P )T
                            | _ (x. dio)E) of
               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
               | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
               | (_, b) dioE of
          P xb
            (w. xaa. case case (xaaT,case daT,daT,xaT,deT of
                                           P x (x. case daT,daT,xaT,xT of P )T
                                           | _ (x. dio)E,
                                    xaaT,case xT,daT,xaT,deT of
                                           P xb (xaa. case xT,daT,xaT,xaaT of P )T
                             | _ (x. dio)E) of
(P, P) (w. w = w)P | (P, F) (w. w = w)F
                             \mid (P , _) dioE \mid (F , P ) (w. w = w)F
                             \label{eq:continuous} | \ (F \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (F \ , \ \_) \quad dioE \ | \ (\_, \ b) \quad dioE \ of
                             w)P
          | F xb
              (w. xaa. case case (xaaT, case daT, daT, xaT, deT of
                                              P x (x. case daT,daT,xaT,xT of P )T
                                              | _ (x. dio)E,
                                      xaaT,case xT,daT,xaT,deT of
                                              P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                             | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                               w)F
         | _ dioE) of
F
                                           | _ dioE of
                                      P xa
                                        (w. xa. case case (case case (daT,case daT,deT,xaT,daT of
                            P \times (x. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
                      daT,case xT,deT,xaT,daT of
                            P xb (xaa. case xT,xaaT,xaT,daT of P )T
                            | _ (x. dio)E) of
               (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
               | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
               | (_, b) dioE of
          P xb
            (w. xaa. case case (xaaT,case daT,deT,xaT,daT of
                                           P x (x. case daT,xT,xaT,daT of P )T
                                           | _ (x. dio)E,
                                    xaaT,case xT,deT,xaT,daT of
                                           P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                           | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                             w)P
          | F xb
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(w. xaa. case case (xaaT, case daT, deT, xaT, daT of
                                     P x (x. case daT,xT,xaT,daT of P )T
                                     | _ (x. dio)E,
                              xaaT,case xT,deT,xaT,daT of
                                    P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                     | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                        | (F, F) (w. w = w)F | (F, _) dioE
                        | (_, b) dioE of
                       w)F
   | _ dioE)
(case case (daT,case daT,xaT,deT,daT of
                    P x (x. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
               daT, case xT, xaT, deT, daT of
                    P xb (xaa. case xT,xaT,xaaT,daT of P )T
                    | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
         | (_, b) dioE of
   P xb
     (w. xaa. case case (xaaT,case daT,xaT,deT,daT of
                                   P x (x. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
                            xaaT,case xT,xaT,deT,daT of
                                  P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                   | _ (x. dio)E) of
                      (P, P) (w. w = w)P | (P, F) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      w)P
   | F xb
        (w. xaa. case case (xaaT,case daT,xaT,deT,daT of
                                     P x (x. case daT,xaT,xT,daT of P)T
                                     | _ (x. dio)E,
                              xaaT,case xT,xaT,deT,daT of
                                    P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                     | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                        \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                        | (_, b)  dioE of
                       w)F
   | _ dioE)
(case case (daT,case daT,xaT,daT,deT of
                    P x (x. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
               daT,case xT,xaT,daT,deT of
                    P xb (xaa. case xT,xaT,daT,xaaT of P )T
                     | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
         | (_, b) dioE of
      (w. xaa. case case (xaaT,case daT,xaT,daT,deT of
                                  P x (x. case daT,xaT,daT,xT of P )T
                                   | _ (x. dio)E,
                            xaaT,case xT,xaT,daT,deT of
                                  P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                   | _ (x. dio)E) of
                      (P, P) (w. w = w)P | (P, F) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      w)P
   | F xb
        (w. xaa. case case (xaaT,case daT,xaT,daT,deT of
                                     P x (x. case daT,xaT,daT,xT of P )T
```

```
| _ (x. dio)E,
                                     xaaT,case xT,xaT,daT,deT of
                                            P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                            | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                              w)F
         | _ dioE) of
P xb
  (w. xaa. case (case case (daT,case daT,deT,xaT,xaaT of
                                         P x (x. case daT,xT,xaT,xaaT of P )T
                                         | _ (x. dio)E,
                                   daT, case xT, deT, xaT, xaaT of
                                         P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                         | _ (x. dio)E) of
                            (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                             \mid (F , F ) (w. w = w)F \mid (F , _) dioE \mid (_, b) dioE of
                         (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
   P x (x. case daT,xT,xaT,xaaT of P )T | \_ (x. dio)E,
                                                  xaaaT,case xT,deT,xaT,xaaT of
   P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | _ (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            | (P , F ) (w. w = w)F | (P , _) dioE
                                            | (F, P) (w. w = w)F
                                            \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                            | (_, b) dioE of
                                            w)P
                       | F xb
                            (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
     P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                                                    xaaaT,case xT,deT,xaT,xaaT of
     P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | (x. dio)E) of (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                        F
                                              w)F
                       | _ dioE)
                   (case case (daT,case daT,xaT,deT,xaaT of
                                         P x (x. case daT,xaT,xT,xaaT of P )T
                                         | _ (x. dio)E,
                                   daT,case xT,xaT,deT,xaaT of
                                         P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                         | _ (x. dio)E) of
                            (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                         (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
   P x (x. case daT,xaT,xT,xaaT of P )T | \_ (x. dio)E,
                                                 xaaaT,case xT,xaT,deT,xaaT of
   P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | \_ (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            | (P , F ) (w. w = w)F | (P , _) dioE
                                            | (F, P) (w. w = w)F
                                            \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                            | (_, b) dioE of
                                            w)P
                       | F xb
                            (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
     P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
```

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xaaaT,case xT,xaT,deT,xaaT of
    P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E) of (P , P ) (w. w = w)P
                                            \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                            | (F, P) (w. w = w)F
                                            | (F, F) (w. w = w)F | (F, _) dioE
                                            | (_, b) dioE of
                                            w)F
                      | _ dioE)
                  (case case (daT,case daT,xaT,xaaT,deT of
                                       P x (x. case daT,xaT,xaaT,xT of P )T
                                        | _ (x. dio)E,
                                  daT,case xT,xaT,xaaT,deT of
                                        P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                        | _ (x. dio)E) of
                            (P, P) (w. w = w)P | (P, F) (w. w = w)F
                            \mid (P , _) dioE \mid (F , P ) (w. w = w)F
                           | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                      P xb
                         (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
  P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
                                                xaaaT,case xT,xaT,xaaT,deT of
  P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E) of (P , P ) (w. w = w)P
                                          | (P, F) (w. w = w)F | (P, _) dioE
                                          | (F, P) (w. w = w)F 
| (F, F) (w. w = w)F | (F, _) dioE
                                          | (_, b) dioE of
                                          w)P
                      | F xb
                           (w. xaaa. case case (xaaaT, case daT, xaT, xaaT, deT of
    P x (x. case daT,xaT,xaaT,xT of P )T | \_ (x. dio)E,
                                                  xaaaT,case xT,xaT,xaaT,deT of
    P xb (xaaa. case xT,xaT,xaaT,xaaaT of P \, )T | \, (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                            | (F, P) (w. w = w)F
                                            | (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
                                            w)F
                      | _ dioE) of
                  w)P
I F xb
    (w. xaa. case (case case (daT,case daT,deT,xaT,xaaT of
                                          P x (x. case daT,xT,xaT,xaaT of P )T
                                          | _ (x. dio)E,
                                    daT,case xT,deT,xaT,xaaT of
                                          P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                          | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                        P xb
                           (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
    P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                                                  xaaaT,case xT,deT,xaT,xaaT of
                                            P )T | _ (x. dio)E) of (P , P ) (w. w = w)P
    P xb (xaaa. case xT,xaaaT,xaT,xaaT of P
                                            | (P, F) (w. w = w)F | (P, _) dioE
                                            | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
                                            w)P
                        | F xb
                             (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
```

```
P \times (x. case daT,xT,xaT,xaaT of P)T | _ (x. dio)E,
xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                           F
                                                 w)F
                          | _ dioE)
                      (case case (daT,case daT,xaT,deT,xaaT of
                                            P x (x. case daT,xaT,xT,xaaT of P )T
                                            | _ (x. dio)E,
                                      daT,case xT,xaT,deT,xaaT of
                                            P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                            | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
                            (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
      P x (x. case daT,xaT,xT,xaaT of P )T | \_ (x. dio)E,
                                                     xaaaT,case xT,xaT,deT,xaaT of
      P xb (xaaa. case xT,xaT,xaaaT,xaaT of P
                                                  )T | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P, F) (w. w = w)F | (P, _) dioE
                                               | (F, P) (w. w = w)F
                                               | \ (F \ , \ F \ ) \quad (w. \quad w \ = \ w)F \ | \ (F \ , \ \_) \quad dioE
                                              | (_, b) dioE of
                                              w)P
                          | F xb
                               (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
        P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P)T
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                           F
                                                w)F
                          | _ dioE)
                      (case case (daT,case daT,xaT,xaaT,deT of
                                            P x (x. case daT,xaT,xaaT,xT of P )T
                                            | _ (x. dio)E,
                                      daT,case xT,xaT,xaaT,deT of
                                            P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                            | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, F) dioE
                                | (_, b) dioE of
                          P xb
                             (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
      P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
                                                     xaaaT,case xT,xaT,xaaT,deT of
                                               P )T | _ (x. dio)E) of (P , P ) (w. w = w)P
      P xb (xaaa. case xT,xaT,xaaT,xaaaT of P
                                               | (P, F) (w. w = w)F | (P, _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                              w)P
                          | F xb
                               (w. xaaa. case case (xaaaT, case daT, xaT, xaaT, deT of
```

```
P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
         | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                  | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F | (F, _) dioE
| (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                             F
                                                  w)F
                 | _ dioE of
                                                  P w)P
                                       l F xa
                                            (w. xa. case case (case case (daT, case daT, deT, xaT, daT of
                               P x (x. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
                         daT,case xT,deT,xaT,daT of
                               P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                | _ (x. dio)E) of
                   (P \ , \ P \ ) \quad (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ \_) \quad dioE
                   | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                   | (F , _) dioE | (_, b) dioE of
             P xb
               (w. xaa. case case (xaaT, case daT, deT, xaT, daT of
                                               P x (x. case daT,xT,xaT,daT of P )T
                                               | _ (x. dio)E,
                                       xaaT,case xT,deT,xaT,daT of
                                               P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                               | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, p) (dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, F) (w. w = w)F | (F, p) (dioE
                                 | (_, b) dioE of
                                w)P
             I F xb
                 (w. xaa. case case (xaaT,case daT,deT,xaT,daT of
                                                P x (x. case daT,xT,xaT,daT of P )T
                                                 | _ (x. dio)E,
                                          xaaT,case xT,deT,xaT,daT of
                                                P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                                 | _ (x. dio)E) of
                                   \label{eq:continuous} | \ (\texttt{F} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} = \ \texttt{w}) \texttt{F} \ | \ (\texttt{F} \ , \ \_) \quad \texttt{dioE}
                                   | (_, b) dioE of
                                   w)F
            | _ dioE)
         (case case (daT,case daT,xaT,deT,daT of
                               P x (x. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
                         daT,case xT,xaT,deT,daT of
                               P xb (xaa. case xT,xaT,xaaT,daT of P )T
                               | _ (x. dio)E) of
                   (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
                   | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                   | (F , _) dioE | (_, b) dioE of
             P xb
               (w. xaa. case case (xaaT,case daT,xaT,deT,daT of
                                               P x (x. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
                                        xaaT,case xT,xaT,deT,daT of
                                               P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                               | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
```

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w)P
         | F xb
              (w. xaa. case case (xaaT,case daT,xaT,deT,daT of
                                             P x (x. case daT,xaT,xT,daT of P )T
                                             | _ (x. dio)E,
                                      xaaT,case xT,xaT,deT,daT of
                                             P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                             | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                               | (_, b) dioE of
                               w)F
         | _ dioE)
     (case case (daT,case daT,xaT,daT,deT of
                            P \times (x. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
                      daT, case xT, xaT, daT, deT of
                            P xb (xaa. case xT,xaT,daT,xaaT of P )T
                            | _ (x. dio)E) of
               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
               | (F, P) (w. w = w)F | (F, F) (w. w = w)F
               | (F , _) dioE | (_, b) dioE of
         P xb
            (w. xaa. case case (xaaT,case daT,xaT,daT,deT of
                                           P x (x. case daT,xaT,daT,xT of P )T
                                           | _ (x. dio)E,
                                    xaaT,case xT,xaT,daT,deT of
                                           P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                           | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, __) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, F) (w. w = w)F | (F, __) dioE
                             | (_, b) dioE of
                             w)P
         I F xb
              (w. xaa. case case (xaaT,case daT,xaT,daT,deT of
                                            P x (x. case daT,xaT,daT,xT of P )T
                                             | _ (x. dio)E,
                                      xaaT,case xT,xaT,daT,deT of
                                             P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                             | _ (x. dio)E) of
                               \label{eq:continuous} | \ (\texttt{F} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} = \ \texttt{w}) \texttt{F} \ | \ (\texttt{F} \ , \ \_) \quad \texttt{dioE}
                               | (_, b) dioE of
                               w)F
         | _ dioE) of
P xb
  (w. xaa. case (case case (daT,case daT,deT,xaT,xaaT of
                                         P \times (x. case daT,xT,xaT,xaaT of P)T
                                          | _ (x. dio)E,
                                    daT, case xT, deT, xaT, xaaT of
                                         P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                          | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                             \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                             | (_, b) dioE of
                          (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
   P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                                                   xaaaT,case xT,deT,xaT,xaaT of
   P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | \_ (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
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| (F, F) (w. w = w)F | (F, _) dioE
                                            | (_, b) dioE of
                                             w)P
                         | F xb
                             (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of
        P \times (x. case daT,xT,xaT,xaaT of P)T | _ (x. dio)E,
xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                               | (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                               w)F
                         | _ dioE)
                     (case case (daT, case daT, xaT, deT, xaaT of
                                           P x (x. case daT,xaT,xT,xaaT of P )T
                                          | _ (x. dio)E,
                                    daT, case xT, xaT, deT, xaaT of
                                           P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                          | _ (x. dio)E) of
                               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                              | (_, b) dioE of
                         P xb
                            (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
      P x (x. case daT,xaT,xaaT of P )T | _ (x. dio)E,
                                                  xaaaT,case xT,xaT,deT,xaaT of
      P xb (xaaa. case xT,xaT,xaaaT,xaaT of P
                                                )T \mid _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                             | (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
                                             w)P
                         | F xb
                             (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
        P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
        | _ (x. dio)E) of
                                               (P , P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
                                               | (F, P) (w. w = w)F
                                               | (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                               w)F
                         | _ dioE)
                      (case case (daT,case daT,xaT,xaaT,deT of
                                          P x (x. case daT,xaT,xaaT,xT of P )T
                                          | _ (x. dio)E,
                                     daT, case xT, xaT, xaaT, deT of
                                          P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                          | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              \label{eq:continuous} | \ (P \ , \ \_) \quad \mbox{dioE} \ | \ (F \ , \ P \ ) \quad (w. \quad w \ = \ w)F
                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                              | (_, b) dioE of
                            (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
      P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
                                                   xaaaT,case xT,xaT,xaaT,deT of
      P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
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| (F, F) (w. w = w)F | (F, _) dioE
                                            | (_, b) dioE of
                                       Р
                                            w)P
                         | F xb
                            (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
       P \times (x. case daT,xaT,xaaT,xT of P)T | _ (x. dio)E,
xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
       | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                              | (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                    | _ dioE) of w)P
                                              w)F
   | F xb
       (w. xaa. case (case case (daT, case daT, deT, xaT, xaaT of
                                            P x (x. case daT,xT,xaT,xaaT of P)T
                                            | _ (x. dio)E,
                                      daT,case xT,deT,xaT,xaaT of
                                            P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (\_, b)  dioE of
                           P xb
       (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P ) T | _ (x. dio)E,
xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
       | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                         Р
                                              w)P
                           | F xb
                               (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of
         P \times (x. case daT,xT,xaT,xaaT of P)T | _ (x. dio)E,
 xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P
         | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                 | (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                           F
                                                w)F
                           | _ dioE)
                       (case case (daT,case daT,xaT,deT,xaaT of
                                            P x (x. case daT,xaT,xT,xaaT of P )T
                                            | _ (x. dio)E,
                                      daT, case xT, xaT, deT, xaaT of
                                            P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                            | _ (x. dio)E) of
                                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
                           P xb
                             (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
        P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
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| (P, F) (w. w = w)F | (P, _) dioE
                                              | (F, P) (w. w = w)F
                                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                              | (_, b) dioE of
                                              w)P
                           | F xb
                               (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
          P \times (x. case daT,xaT,xT,xaaT of P)T | _ (x. dio)E,
 xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P
          | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                           | _ dioE)
                       (case case (daT,case daT,xaT,xaaT,deT of
                                            P x (x. case daT,xaT,xaaT,xT of P )T
                                            | _ (x. dio)E,
                                      daT,case xT,xaT,xaaT,deT of
                                            P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (\_, b)  dioE of
       (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P ) T | _ (x. dio)E,
xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
       | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                         Р
                                              w)P
                           | F xb
                               (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
         P \times (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
 xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P
         | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                | (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                           F
                                                w)F
                          | _ dioE) of
                  F w)F
   | _ dioE of
                                                       w)F
                                    | _ dioE) of
                               (w. xa. case (case case (daT, case xT, deT, daT, daT of
                           P xa (xa. case xT,xaT,daT,daT of P )T \mid (x. dio)E,
                     daT, case xaT, deT, daT, daT of
                          P x (x. case xaT,xT,daT,daT of P )T | _ (x. dio)E) of
               (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
               | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
               | (_, b) dioE of
            (w. xaa. case case (xaaT, case xT, deT, daT, daT of
                                         P xa (xa. case xT,xaT,daT,daT of P )T
                                         | _ (x. dio)E,
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xaaT,case xaT,deT,daT,daT of
                                  P x (x. case xaT,xT,daT,daT of P )T
                                  | _ (x. dio)E) of
                      (P, P) (w. w = w)P | (P, F) (w. w = w)F
                     \mid (P , _) dioE \mid (F , P ) (w. w = w)F
                     \label{eq:continuous} | \ (F \ , \ F \ ) \quad (w. \quad w \ = \ w)F \ | \ (F \ , \ \_) \quad \mbox{dioE} \ | \ (\_, \ b) \quad \mbox{dioE of}
                     w)P
   | F xb
       (w. xaa. case case (xaaT,case xT,deT,daT,daT of
                                    P xa (xa. case xT,xaT,daT,daT of P )T
                                    | _ (x. dio)E,
                             xaaT,case xaT,deT,daT,daT of
                                    P \times (x. case xaT,xT,daT,daT of P)T
                                    | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                       | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                       | (_, b) dioE of
                       w)F
   | _ dioE)
(case case (daT,case xT,daT,deT,daT of
                    P xa (xa. case xT,daT,xaT,daT of P )T | _ (x. dio)E,
              daT, case xaT, daT, deT, daT of
                   P x (x. case xaT,daT,xT,daT of P )T | _ (x. dio)E) of
         (P\ ,\ P\ )\quad (w.\quad w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\quad w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
         | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
   P xb
     (w. xaa. case case (xaaT, case xT, daT, deT, daT of
                                  P xa (xa. case xT,daT,xaT,daT of P )T
                                  | _ (x. dio)E,
                           xaaT,case xaT,daT,deT,daT of
                                  P x (x. case xaT,daT,xT,daT of P )T
                                  | _ (x. dio)E) of
                      (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                     | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
   | F xb
       (w. xaa. case case (xaaT,case xT,daT,deT,daT of
                                    P xa (xa. case xT,daT,xaT,daT of P )T
                                    | _ (x. dio)E,
                             xaaT,case xaT,daT,deT,daT of
                                    P x (x. case xaT,daT,xT,daT of P )T
                       | (P , _) dioE | (F , P ) (w. w = w)F
                       | (F, F) (w. w = w)F | (F, _) dioE
                       | (_, b) dioE of
                       w)F
   | _ dioE)
(case case (daT,case xT,daT,daT,deT of
                    P xa (xa. case xT,daT,daT,xaT of P )T | _ (x. dio)E,
              daT,case xaT,daT,daT,deT of
         | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE
        | (_, b) dioE of
      (w. xaa. case case (xaaT,case xT,daT,daT,deT of
                                  P xa (xa. case xT,daT,daT,xaT of P )T
                                  | _ (x. dio)E,
                            xaaT,case xaT,daT,daT,deT of
                                  P x (x. case xaT,daT,daT,xT of P )T
                                  | _ (x. dio)E) of
                      (P, P) (w. w = w)P | (P, F) (w. w = w)F
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| (P, _{)} dioE | (F, P) (w. w = w)F
                            | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                            w)P
         | F xb
             (w. xaa. case case (xaaT,case xT,daT,daT,deT of
                                            P xa (xa. case xT,daT,daT,xaT of P )T
                                            | _ (x. dio)E,
                                    xaaT,case xaT,daT,daT,deT of
                                           P x (x. case xaT,daT,daT,xT of P )T
                                           | _ (x. dio)E) of
                              (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                              | (_, b) dioE of
                              w)F
         | _ dioE) of
P xb
  (w. xaa. case (case case (daT,case xT,deT,daT,xaaT of
                                        P xa (xa. case xT,xaT,daT,xaaT of P )T
                                         | _ (x. dio)E,
                                   daT, case xaT, deT, daT, xaaT of
                                        P x (x. case xaT,xT,daT,xaaT of P )T
                             | \ \_ \ (x. \ dio)E) \ of \\ (P \ , \ P \ ) \ (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \ (w. \ w = \ w)F 
                            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                         (w. xaaa. case case (xaaaT, case xT, deT, daT, xaaT of
   P xa (xa. case xT,xaT,daT,xaaT of P )T | \_ (x. dio)E,
                                                xaaaT,case xaT,deT,daT,xaaT of
   P x (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E) of
                                           (P, P) (w. w = w)P
                                           | (P, F) (w. w = w)F | (P, _) dioE
                                           (F, P) (w. w = w)F
                                           \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                           | (_, b) dioE of
                                           w)P
                       | F xb
                           (w. xaaa. case case (xaaaT, case xT, deT, daT, xaaT of
     P xa (xa. case xT,xaT,daT,xaaT of P )T \mid (x. dio)E,
                                                  xaaaT,case xaT,deT,daT,xaaT of
                                           )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
     P x (x. case xaT,xT,daT,xaaT of P
                                             \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                             | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
                                             w)F
                       | _ dioE)
                   (case case (daT,case xT,daT,deT,xaaT of
                                        P xa (xa. case xT,daT,xaT,xaaT of P )T
                                         | _ (x. dio)E,
                                   daT, case xaT, daT, deT, xaaT of
                                        P x (x. case xaT,daT,xT,xaaT of P )T
                            (P,P) (w. w = w)P | (P,F) (w. w = w)F
                            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                         (w. xaaa. case case (xaaaT, case xT, daT, deT, xaaT of
   P xa (xa. case xT,daT,xaT,xaaT of P )T \mid (x. dio)E,
                                                xaaaT,case xaT,daT,deT,xaaT of
   P x (x. case xaT,daT,xT,xaaT of P
                                         )T | _ (x. dio)E) of
                                           (P, P) (w. w = w)P
                                           | (P, F) (w. w = w)F | (P, _) dioE
                                           | (F, P) (w. w = w)F
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| (F, F) (w. w = w)F | (F, _) dioE
                                          | (_, b) dioE of
                                          w)P
                       | F xb
                           (w. xaaa. case case (xaaaT,case xT,daT,deT,xaaT of
     P xa (xa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
                                                  xaaaT,case xaT,daT,deT,xaaT of
     P x (x. case xaT,daT,xT,xaaT of P
                                           )T | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                             | (F, F) (w. w = w)F | (F, _) dioE
                                            | (_, b) dioE of
                                       F
                                            w)F
                       | _ dioE)
                  (case case (daT,case xT,daT,xaaT,deT of
                                        P xa (xa. case xT,daT,xaaT,xaT of P )T
                                        | _ (x. dio)E,
                                  daT,case xaT,daT,xaaT,deT of
                                        P x (x. case xaT,daT,xaaT,xT of P )T
                                        | _ (x. dio)E) of
                            (P, P) (w. w = w)P | (P, F) (w. w = w)F
                            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                       P xb
                         (w. xaaa. case case (xaaaT, case xT, daT, xaaT, deT of
   P xa (xa. case xT,daT,xaaT,xaT of P )T \mid _ (x. dio)E,
                                                xaaaT,case xaT,daT,xaaT,deT of
                                         )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
   P x (x. case xaT,daT,xaaT,xT of P
                                           \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                          | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                          | (_, b) dioE of
                                          w)P
                       | F xb
                          (w. xaaa. case case (xaaaT, case xT, daT, xaaT, deT of
     P xa (xa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
                                                  xaaaT,case xaT,daT,xaaT,deT of
     P x (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                             \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                            | (_, b) dioE of
                                            w)F
                      | _ dioE) of
| F xb
    (w. xaa. case (case case (daT, case xT, deT, daT, xaaT of
                                          P xa (xa. case xT,xaT,daT,xaaT of P )T
                                          | _ (x. dio)E,
                                    daT, case xaT, deT, daT, xaaT of
                                          P x (x. case xaT,xT,daT,xaaT of P )T
                              | _{x} (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                              | (_, b)  dioE of
                           (w. xaaa. case case (xaaaT, case xT, deT, daT, xaaT of
     P xa (xa. case xT,xaT,daT,xaaT of P )T \mid _ (x. dio)E,
                                                  xaaaT,case xaT,deT,daT,xaaT of
     P x (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P, F) (w. w = w)F | (P, _) dioE
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| (F , P ) (w. w = w)F 
| (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
                                            w)P
                         l F xb
                             (w. xaaa. case case (xaaaT,case xT,deT,daT,xaaT of
        P xa (xa. case xT,xaT,daT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xaT,deT,daT,xaaT of P x (x. case xaT,xT,daT,xaaT of P
        | _ (x. dio)E) of
                                              (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                              | (F, P) (w. w = w)F
                                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                              | (_, b) dioE of
                         | _ dioE)
                     (case case (daT,case xT,daT,deT,xaaT of
                                          P xa (xa. case xT,daT,xaT,xaaT of P )T
                                          | _ (x. dio)E,
                                    daT, case xaT, daT, deT, xaaT of
                                          P x (x. case xaT,daT,xT,xaaT of P )T
                                          | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                              | (_, b) dioE of
                           (w. xaaa. case case (xaaaT, case xT, daT, deT, xaaT of
     P xa (xa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
                                                 xaaaT,case xaT,daT,deT,xaaT of
     P x (x. case xaT,daT,xT,xaaT of P )T | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                             (F, P) (w. w = w)F
                                            \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                            | (_, b) dioE of
                                            w)P
                         | F xb
                             (w. xaaa. case case (xaaaT, case xT, daT, deT, xaaT of
        P xa (xa. case xT,daT,xaT,xaaT of P )T | \_ (x. dio)E,
xaaaT,case xaT,daT,deT,xaaT of P x (x. case xaT,daT,xT,xaaT of P
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                              w)F
                         | _ dioE)
                     (case case (daT,case xT,daT,xaaT,deT of
                                          P xa (xa. case xT,daT,xaaT,xaT of P )T
                                          | _ (x. dio)E,
                                    daT, case xaT, daT, xaaT, deT of
                                          P x (x. case xaT,daT,xaaT,xT of P )T
                              | _ (x. dio)E) of
(P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                              | (_, b)  dioE of
                           (w. xaaa. case case (xaaaT,case xT,daT,xaaT,deT of
      P xa (xa. case xT,daT,xaaT,xaT of P )T \mid _ (x. dio)E,
                                                 xaaaT,case xaT,daT,xaaT,deT of
     P x (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E) of
                                            (P, P) (w. w = w)P
                                             | (P, F) (w. w = w)F | (P, _) dioE
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| (F , P ) (w. w = w)F 
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                                   w)P
                             l F xb
                                  (w. xaaa. case case (xaaaT,case xT,daT,xaaT,deT of
         P xa (xa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
xaaaT,case xaT,daT,xaaT,deT of P x (x. case xaT,daT,xaaT,xT of P
         | _ (x. dio)E) of
                                                      (P, P) (w. w = w)P
                                                     | (P , F ) (w. w = w)F | (P , _) dioE
                                                     | (F, P) (w. w = w)F
                                                     \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                     | (_, b) dioE of
                                                     w)F
                            | _ dioE) of
                      w)F
 | _ dioE of
                                                        P xb
                                                          (w.
  xaa. case case (case case (daT,case xT,deT,xaaT,daT of
                                             P xa (xa. case xT,xaT,xaaT,daT of P )T
                                             | _ (x. dio)E,
                                      daT, case xaT, deT, xaaT, daT of
                                             P x (x. case xaT,xT,xaaT,daT of P )T
                               | _{-} (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                         P xb
                            (w. xaaa. case case (xaaaT,case xT,deT,xaaT,daT of
   P xa (xa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
                                                      xaaaT,case xaT,deT,xaaT,daT of
   P x (x. case xaT,xT,xaaT,daT of P
                                              )T | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
| (P, F) (w. w = w)F | (P, _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                               w)P
                         | F xb
                              (w. xaaa. case case (xaaaT, case xT, deT, xaaT, daT of
     P xa (xa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
                                                       xaaaT,case xaT,deT,xaaT,daT of
     P x (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E) of (P , P ) (w. w = w)P
                                                  \label{eq:continuous} | \ (\texttt{P} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \quad \texttt{w} = \ \texttt{w}) \texttt{F} \ | \ (\texttt{P} \ , \ \_) \quad \texttt{dioE}
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                            F
                                                  w)F
                         | _ dioE)
                     (case case (daT,case xT,xaaT,deT,daT of
                                             P xa (xa. case xT,xaaT,xaT,daT of P )T
                                             | _ (x. dio)E,
                                      daT,case xaT,xaaT,deT,daT of
                                             P x (x. case xaT,xaaT,xT,daT of P )T
                               | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                         P xb
                            (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
   P xa (xa. case xT,xaaT,xaT,daT of P )T | _ (x. dio)E,
                                                       xaaaT,case xaT,xaaT,deT,daT of
   P \times (x. case xaT, xaaT, xT, daT of P)T | _ (x. dio)E) of
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(P, P) (w. w = w)P
                                          | (P, F) (w. w = w)F | (P, _) dioE
                                         | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                         | (_, b) dioE of
                                    Р
                                         w)P
                      | F xb
                          (w. xaaa. case case (xaaaT, case xT, xaaT, deT, daT of
    P xa (xa. case xT,xaaT,xaT,daT of P )T | _ (x. dio)E,
                                                 xaaaT,case xaT,xaaT,deT,daT of
                                          )T \mid _ (x. dio)E) of
    P x (x. case xaT,xaaT,xT,daT of P
                                            (P, P) (w. w = w)P
                                           | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                           | (_, b) dioE of
                                           w)F
                     | _ dioE)
                 (case case (daT,case xT,xaaT,daT,deT of
                                       P xa (xa. case xT,xaaT,daT,xaT of P )T
                                       | _ (x. dio)E,
                                 daT,case xaT,xaaT,daT,deT of
                                       P x (x. case xaT,xaaT,daT,xT of P )T
                                       | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F
                           | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      P xb
                        (w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
  P xa (xa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
                                               xaaaT,case xaT,xaaT,daT,deT of
  P x (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E) of
                                          (P, P) (w. w = w)P
                                          \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                         | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                         | (_, b) dioE of
                                         w)P
                      | F xb
                          (w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
    P xa (xa. case xT,xaaT,daT,xaT of P )T \mid _ (x. dio)E,
                                                xaaaT,case xaT,xaaT,daT,deT of
                                          )T | _ (x. dio)E) of
    P x (x. case xaT,xaaT,daT,xT of P
                                            (P, P) (w. w = w)P
                                           | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                            | (F, F) (w. w = w)F | (F, _) dioE
                                           | (_, b) dioE of
                                           w)F
                      | _ dioE) of
            P xb
              (w. xaaa. case (case case (daT,case xT,deT,xaaT,xaaaT of
P xa (xa. case xT,xaT,xaaT,xaaaT of P )T \mid _ (x. dio)E,
                                              daT,case xaT,deT,xaaT,xaaaT of
                                        )T \mid _ (x. dio)E) of
P x (x. case xaT,xT,xaaT,xaaaT of P
                                         (P, P) (w. w = w)P
                                          \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                         | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                         | (_, b) dioE of
                                    P xb
                                      (w. xaaaa. case case (xaaaaT, case xT, deT, xaaT, xaaaT of
                  P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
         xaaaaT,case xaT,deT,xaaT,xaaaT of
                  P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
   (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
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| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
  | (_, b) dioE of
  w)P
                                    | F xb
                                       (w. xaaaa. case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                    P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,deT,xaaT,xaaaT of
                   P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)F
                                    | _ dioE)
                                (case case (daT,case xT,xaaT,deT,xaaaT of
P xa (xa. case xT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                              daT, case xaT, xaaT, deT, xaaaT of
P \times (x. case xaT, xaaT, xT, xaaaT of P )T | _ (x. dio)E) of
                                         (P, P) (w. w = w)P
                                        | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                         | (_, b) dioE of
                                    P xb
                                     (w. xaaaa. case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                  P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
         xaaaaT,case xaT,xaaT,deT,xaaaT of
                 P x (x. case xaT,xaaT,xT,xaaaT of P )T | \_ (x. dio)E) of
   (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
   | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
   | (_, b) dioE of
   w)P
                                    | F xb
                                        (w. xaaaa. case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                    P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,xaaT,deT,xaaaT of
                   P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of
     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE
     | (_, b) dioE of
    w)F
                                   | _ dioE)
                                (case case (daT,case xT,xaaT,xaaaT,deT of
P xa (xa. case xT,xaaT,xaaaT,xaT of P )T \mid _ (x. dio)E,
                                              daT,case xaT,xaaT,xaaaT,deT of
P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
                                         (P, P) (w. w = w)P
                                         | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                         | (_, b) dioE of
                                    P xb
                                      (w. xaaaa. case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                  P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
         xaaaaT,case xaT,xaaT,xaaaT,deT of
                 P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
   (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
   | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE
   | (_, b) dioE of
  w)P
                                    I F xb
                                        (w. xaaaa. case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                    P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,xaaT,xaaaT,deT of
                    P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
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| (_, b) dioE of
     w)F
                               | _ dioE) of w)P
            l F xb
                 (w. xaaa. case (case case (daT,case xT,deT,xaaT,xaaaT of
  P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                  daT, case xaT, deT, xaaT, xaaaT of
  P \times (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             (P, F) (w. w = w)F | (P, _) dioE
                                            | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
                                         (w. xaaaa. case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                     P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,deT,xaaT,xaaaT of
     P x (x. case xaT,xT,xaaT,xaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)P
                                       | F xb
                                          (w. xaaaa. case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                       P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xaT,deT,xaaT,xaaaT of
       | (_, b) dioE of
  F
       w)F
                                       | _ dioE)
                                   (case case (daT, case xT, xaaT, deT, xaaaT of
  P xa (xa. case xT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                  daT, case xaT, xaaT, deT, xaaaT of
  P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                            | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                            | (F, F) (w. w = w)F | (F, _) dioE
                                            | (_, b) dioE of
                                       P xb
                                         (w. xaaaa. case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                     P xa (xa. case xT,xaaT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,xaaT,deT,xaaaT of
     P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b)  dioE of
Р
     w)P
                                           (w. xaaaa. case case (xaaaaT, case xT, xaaT, deT, xaaaT of
                       P xa (xa. case xT,xaaT,xaT,xaaaT of P )T \mid _ (x. dio)E,
             xaaaaT,case xaT,xaaT,deT,xaaaT of
                      P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of
       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b)  dioE of
       w)F
                                      | _ dioE)
                                   (case case (daT,case xT,xaaT,xaaaT,deT of
  P xa (xa. case xT,xaaT,xaaaT,xaT of P )T \mid (x. dio)E,
                                                  daT, case xaT, xaaT, xaaaT, deT of
  P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
                                            (P, P) (w. w = w)P
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\mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                            | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
                                       P xb
                                         (w. xaaaa. case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                     P xa (xa. case xT,xaaT,xaaaT,xaT of P )T \mid (x. dio)E,
            xaaaaT,case xaT,xaaT,xaaaT,deT of
      | (_, b) dioE of
     w)P
Ρ
                                       | F xb
                                           (w. xaaaa. case case (xaaaaT, case xT, xaaT, xaaaT, deT of
                       P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
              xaaaaT,case xaT,xaaT,xaaaT,deT of
        P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
        | (_, b) dioE of
        w)F
                             | _ dioE of
             w)P
                                                 | F xb
(w. xaa. case case (case case (daT,case xT,deT,xaaT,daT of
                                          P xa (xa. case xT,xaT,xaaT,daT of P )T
                                           | _ (x. dio)E,
                                     daT,case xaT,deT,xaaT,daT of
                                           P x (x. case xaT,xT,xaaT,daT of P )T
                                           | _ (x. dio)E) of
                               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                         P xb
                            (w. xaaa. case case (xaaaT, case xT, deT, xaaT, daT of
     P xa (xa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
                                                  xaaaT,case xaT,deT,xaaT,daT of
     P x (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E) of (P , P ) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                             | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                             | (_, b) dioE of
                                             w)P
                          | F xb
                            (w. xaaa. case case (xaaaT,case xT,deT,xaaT,daT of
        P xa (xa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
xaaaT,case xaT,deT,xaaT,daT of P x (x. case xaT,xT,xaaT,daT of P
       | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F, P) (w. w = w)F
                                               | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
                                               | (_, b) dioE of
                                               w)F
                         | _ dioE)
                     (case case (daT, case xT, xaaT, deT, daT of
                                           P xa (xa. case xT,xaaT,xaT,daT of P )T
                                           | _ (x. dio)E,
                                     daT, case xaT, xaaT, deT, daT of
                                           P x (x. case xaT,xaaT,xT,daT of P)T
                                           | _ (x. dio)E) of
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(P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                          P xb
                            (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
      P xa (xa. case xT,xaaT,xaT,daT of P )T \mid _ (x. dio)E,
                                                    xaaaT,case xaT,xaaT,deT,daT of
      P \times (x. case xaT, xaaT, xT, daT of P )T | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P, F) (w. w = w)F | (P, _) dioE
                                              | (F, P) (w. w = w)F
                                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                              | (_, b) dioE of
                                              w)P
                          | F xb
                              (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
        P xa (xa. case xT,xaaT,xaT,daT of P )T | _ (x. dio)E,
xaaaT, case xaT, xaaT, deT, daT of P x (x. case xaT, xaaT, xT, daT of P
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                          | _ dioE)
                      (case case (daT,case xT,xaaT,daT,deT of
                                            P xa (xa. case xT,xaaT,daT,xaT of P )T
                                            | _ (x. dio)E,
                                      daT, case xaT, xaaT, daT, deT of
                                            P x (x. case xaT,xaaT,daT,xT of P )T
                                            | _ (x. dio)E) of
                               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                          P xb
                            (w. xaaa. case case (xaaaT, case xT, xaaT, daT, deT of
      P xa (xa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
                                                   xaaaT,case xaT,xaaT,daT,deT of
                                            )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
      P x (x. case xaT,xaaT,daT,xT of P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                              w)P
                          | F xb
                             (w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
        P xa (xa. case xT,xaaT,daT,xaT of P )T \mid (x. dio)E,
xaaaT,case xaT,xaaT,daT,deT of P x (x. case xaT,xaaT,daT,xT of P
       | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F, P) (w. w = w)F
                                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                          | _ dioE) of
                P xb
                   (w. xaaa. case (case case (daT,case xT,deT,xaaT,xaaaT of
    P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
                                                    daT, case xaT, deT, xaaT, xaaaT of
    P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
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| (P, F) (w. w = w)F | (P, _) dioE
                                               | (F, P) (w. w = w)F
                                               | (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                         P xb
                                           (w. xaaaa. case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                       P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xaT,deT,xaaT,xaaaT of
        | (_, b) dioE of
        w)P
  Ρ
                                         l F xb
                                              (w. xaaaa.
case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                   P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,deT,xaaT,xaaaT of
                   P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)F
                                         | _ dioE)
                                     (case case (daT,case xT,xaaT,deT,xaaaT of
    P xa (xa. case xT,xaaT,xaaT,xaaaT of P )T | _ (x. dio)E, daT,case xaT,xaaT,deT,xaaaT of
     P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
| (P, F) (w. w = w)F | (P, _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                           (w. xaaaa. case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                       P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xaT,xaaT,deT,xaaaT of
        P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
                                         l F xb
                                             (w. xaaaa.
case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                    P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,xaaT,deT,xaaaT of
     \label{eq:problem} P~x~~(x.~case~xaT,xaaT,xT,xaaaT~of~P~)T~|~~(x.~dio)E)~of~(P~,~P~)~~(w.~w~=~w)P~|~(P~,~F~)~~(w.~w~=~w)F~|~(P~,~\_)~~dioE
     | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
     | (_, b)  dioE of
     w)F
                                         | _ dioE)
                                     (case case (daT,case xT,xaaT,xaaaT,deT of
     P xa (xa. case xT,xaaT,xaaaT,xaT of P )T \mid _ (x. dio)E,
                                                    daT, case xaT, xaaT, xaaaT, deT of
     P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
                                               (P , P ) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
                                               | (F, P) (w. w = w)F
                                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                               | (_, b) dioE of
                                            (w. xaaaa. case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                       P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
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xaaaaT,case xaT,xaaT,xaaaT,deT of

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P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
        (P , P) (w. w = w)P | (P , F) (w. w = w)F | (P , _) dioE
        | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
        | (_, b) dioE of
       w)P
                                        | F xb
                                            (w. xaaaa.
case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                   P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
          xaaaaT,case xaT,xaaT,xaaaT,deT of
                   P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
     (P \ , \ P \ ) \quad (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ \_) \quad dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
    w)F
                                       | _ dioE) of
                                    w)P
                 | F xb
                     (w. xaaa. case (case case (daT,case xT,deT,xaaaT,xaaaT of
       P xa (xa. case xT,xaT,xaaT,xaaaT of P )T \mid _ (x. dio)E,
daT,case xaT,deT,xaaT,xaaaT of P x (x. case xaT,xT,xaaT,xaaaT of P )T
      | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
                                               | (F, P) (w. w = w)F
                                               | (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                          P xb
                                            (w. xaaaa.
case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                  P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,deT,xaaT,xaaaT of
                   P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
     (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
     | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
     | (_, b) dioE of
    w)P
                                          | F xb
                                              (w. xaaaa.
 case case (xaaaaT, case xT, deT, xaaaT, xaaaT of
                     P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xaT,deT,xaaT,xaaaT of
                     P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
       (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
       w)F
                                          | _ dioE)
                                      (case case (daT,case xT,xaaT,deT,xaaaT of
       P xa (xa. case xT,xaaT,xaaaT of P )T | _ (x. dio)E,
 daT, case xaT, xaaT, deT, xaaaT of P x (x. case xaT, xaaT, xT, xaaaT of P )T
       | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                          P xb
                                            (w. xaaaa.
case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                  P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,xaaT,deT,xaaaT of
    P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
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| (\_, b) dioE of

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w)P
                                          | F xb
                                              (w. xaaaa.
 case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                    P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xaT,xaaT,deT,xaaaT of
       \label{eq:problem} P\ x\ (x.\ case\ xaT,xaaT,xT,xaaaT\ of\ P\ )T\ |\ \_\ (x.\ dio)E)\ of\ (P\ ,\ P\ )\ (w.\ w=\ w)F\ |\ (P\ ,\ \_)\ dioE
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
      w)F
                                         | _ dioE)
                                      (case case (daT,case xT,xaaT,xaaaT,deT of
      P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
 daT, case xaT, xaaT, xaaaT, deT of P x (x. case xaT, xaaT, xaaaT, xT of P )T
      | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                          P vh
                                            (w. xaaaa.
case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                   P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
          xaaaaT,case xaT,xaaT,xaaaT,deT of
                  P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
     (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
    | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
    | (_, b) dioE of
    w)P
                                          | F xb
                                              (w. xaaaa.
 case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                     P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
             xaaaaT,case xaT,xaaT,xaaaT,deT of
                    P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
      | (_, b) dioE of
 F
      w)F
                                | _ dioE) of F w)F
                 | _ dioE of
                w)F
                                                 | _ dioE)
                                                (case case (daT, case xaT, deT, daT, daT of
                           P x (x. case xaT,xT,daT,daT of P )T | _ (x. dio)E,
                      daT,case xT,deT,daT,daT of
                           P xa (xa. case xT,xaT,daT,daT of P )T
                            | _ (x. dio)E) of
                (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
                | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
                | (_, b) dioE of
           P xb
             (w. xaa. case case (xaaT,case xaT,deT,daT,daT of
                                         P x (x. case xaT,xT,daT,daT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case xT,deT,daT,daT of
                                          P xa (xa. case xT,xaT,daT,daT of P )T
                                         | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                            w)P
           | F xb
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(w. xaa. case case (xaaT,case xaT,deT,daT,daT of
                                      P x (x. case xaT,xT,daT,daT of P )T
                                      | _ (x. dio)E,
                               xaaT,case xT,deT,daT,daT of
                                     P xa (xa. case xT,xaT,daT,daT of P )T
                                      | _ (x. dio)E) of
                         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                         | (F, F) (w. w = w)F | (F, _) dioE
                         | (_, b) dioE of
                        w)F
    | _ dioE)
(case case (daT,case xaT,daT,deT,daT of
                     P x (x. case xaT,daT,xT,daT of P )T | _ (x. dio)E,
               daT, case xT, daT, deT, daT of
                     P xa (xa. case xT,daT,xaT,daT of P )T
                     | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
         | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case xaT,daT,deT,daT of
                                    P x (x. case xaT,daT,xT,daT of P )T | _ (x. dio)E,
                             xaaT,case xT,daT,deT,daT of
                                    P xa (xa. case xT,daT,xaT,daT of P )T
                                    | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      w)P
    | F xb
        (w. xaa. case case (xaaT,case xaT,daT,deT,daT of
                                      P \times (x. case xaT,daT,xT,daT of P)T
                                      | _ (x. dio)E,
                               xaaT,case xT,daT,deT,daT of
                                     P xa (xa. case xT,daT,xaT,daT of P )T
                                      | _ (x. dio)E) of
                         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                         \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                         | (_, b)  dioE of
                        w)F
    | _ dioE)
(case case (daT,case xaT,daT,daT,deT of
                     P \times (x. case xaT,daT,daT,xT of P )T | _ (x. dio)E,
               daT, case xT, daT, daT, deT of
                     P xa (xa. case xT,daT,daT,xaT of P )T
                     | _ (x. dio)E) of
         (P \ , \ P \ ) \quad (w. \ \ w \ = \ \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ \ w \ = \ \ w)F \ | \ (P \ , \ \_) \quad dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
         | (_, b) dioE of
      (w. xaa. case case (xaaT,case xaT,daT,daT,deT of
                                   P x (x. case xaT,daT,daT,xT of P )T
                                    | _ (x. dio)E,
                             xaaT,case xT,daT,daT,deT of
                                    P xa (xa. case xT,daT,daT,xaT of P )T
                                    | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      w)P
    | F xb
        (w. xaa. case case (xaaT,case xaT,daT,daT,deT of
                                      P x (x. case xaT,daT,daT,xT of P )T
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| _ (x. dio)E,
                                     xaaT,case xT,daT,daT,deT of
                                            P xa (xa. case xT,daT,daT,xaT of P )T
                                            | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                              w)F
         | _ dioE) of
P xb
  (w. xaa. case (case case (daT,case xaT,deT,daT,xaaT of
                                        P x (x. case xaT,xT,daT,xaaT of P )T
                                         | _ (x. dio)E,
                                   daT, case xT, deT, daT, xaaT of
                                        P xa (xa. case xT,xaT,daT,xaaT of P )T
                                         | _ (x. dio)E) of
                            (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                            \mid (F , F ) (w. w = w)F \mid (F , _) dioE \mid (_, b) dioE of
                         (w. xaaa. case case (xaaaT,case xaT,deT,daT,xaaT of
   P x (x. case xaT,xT,daT,xaaT of P )T | \_ (x. dio)E,
                                                 xaaaT,case xT,deT,daT,xaaT of
   P xa (xa. case xT,xaT,daT,xaaT of P
                                           )T | _ (x. dio)E) of
                                           (P, P) (w. w = w)P
                                           | (P , F ) (w. w = w)F | (P , _) dioE
                                           | (F, P) (w. w = w)F
                                           \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                           | (_, b) dioE of
                                           w)P
                       | F xb
                           (w. xaaa. case case (xaaaT,case xaT,deT,daT,xaaT of
     P x (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E,
                                                   xaaaT,case xT,deT,daT,xaaT of
     P xa (xa. case xT,xaT,daT,xaaT of P
                                             )T | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                             | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                             | (_, b) dioE of
                                        F
                                             w)F
                       | _ dioE)
                   (case case (daT,case xaT,daT,deT,xaaT of
                                        P x (x. case xaT,daT,xT,xaaT of P )T
                                         | _ (x. dio)E,
                                   daT,case xT,daT,deT,xaaT of
                                        P xa (xa. case xT,daT,xaT,xaaT of P )T
                                         | _ (x. dio)E) of
                            (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                         (w. xaaa. case case (xaaaT,case xaT,daT,deT,xaaT of
   P \times (x. case xaT,daT,xT,xaaT of P )T | _ (x. dio)E,
                                                 xaaaT,case xT,daT,deT,xaaT of
   P xa (xa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E) of
                                           (P, P) (w. w = w)P
                                           | (P , F ) (w. w = w)F | (P , _) dioE
                                           | (F, P) (w. w = w)F
                                           \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                           | (_, b) dioE of
                                      Р
                                           w)P
                       | F xb
                           (w. xaaa. case case (xaaaT,case xaT,daT,deT,xaaT of
     P x (x. case xaT,daT,xT,xaaT of P )T | _ (x. dio)E,
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xaaaT,case xT,daT,deT,xaaT of
                                            )T | _ (x. dio)E) of
(P, P) (w. w = w)P
    P xa (xa. case xT,daT,xaT,xaaT of P
                                            \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                            | (F, P) (w. w = w)F
                                            | (F, F) (w. w = w)F | (F, _) dioE
                                            | (_, b) dioE of
                                            w)F
                      | _ dioE)
                  (case case (daT,case xaT,daT,xaaT,deT of
                                       P x (x. case xaT,daT,xaaT,xT of P )T
                                        | _ (x. dio)E,
                                  daT,case xT,daT,xaaT,deT of
                                       P xa (xa. case xT,daT,xaaT,xaT of P )T
                                        | _ (x. dio)E) of
                            (P, P) (w. w = w)P | (P, F) (w. w = w)F
                           \mid (P , _) dioE \mid (F , P ) (w. w = w)F
                           | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                      Pxb
                         (w. xaaa. case case (xaaaT,case xaT,daT,xaaT,deT of
  P x (x. case xaT,daT,xaaT,xT of P )T | \_ (x. dio)E,
                                                xaaaT,case xT,daT,xaaT,deT of
  P xa (xa. case xT,daT,xaaT,xaT of P
                                           )T | _ (x. dio)E) of
                                          (P, P) (w. w = w)P
                                          | (P, F) (w. w = w)F | (P, _) dioE
                                          | (F, P) (w. w = w)F 
| (F, F) (w. w = w)F | (F, _) dioE
                                          | (_, b) dioE of
                                          w)P
                      | F xb
                           (w. xaaa. case case (xaaaT, case xaT, daT, xaaT, deT of
    P \times (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E,
                                                  xaaaT,case xT,daT,xaaT,deT of
                                           )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
    P xa (xa. case xT,daT,xaaT,xaT of P
                                            | (P, F) (w. w = w)F | (P, _) dioE
                                            | (F, P) (w. w = w)F
                                            | (F, F) (w. w = w)F | (F, _) dioE
                                            | (_, b) dioE of
                                            w)F
                      | _ dioE) of
                  w)P
I F xb
    (w. xaa. case (case case (daT,case xaT,deT,daT,xaaT of
                                         P x (x. case xaT,xT,daT,xaaT of P )T
                                          | _ (x. dio)E,
                                    daT,case xT,deT,daT,xaaT of
                                         P xa (xa. case xT,xaT,daT,xaaT of P )T
                                          | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, F) dioE
                             | (_, b) dioE of
                        P xb
                           (w. xaaa. case case (xaaaT, case xaT, deT, daT, xaaT of
    P x (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E,
                                                  xaaaT,case xT,deT,daT,xaaT of
                                            )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
    P xa (xa. case xT,xaT,daT,xaaT of P
                                            | (P, F) (w. w = w)F | (P, _) dioE
                                            | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
                                            w)P
                        | F xb
                            (w. xaaa. case case (xaaaT, case xaT, deT, daT, xaaT of
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```
P \times (x. case xaT,xT,daT,xaaT of P)T | _ (x. dio)E,
xaaaT,case xT,deT,daT,xaaT of P xa (xa. case xT,xaT,daT,xaaT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F, F) (w. w = w)F | (F, F) dioE
                                                | (_, b) dioE of
                                           F
                                                w)F
                          | _ dioE)
                      (case case (daT,case xaT,daT,deT,xaaT of
                                            P x (x. case xaT,daT,xT,xaaT of P )T
                                            | _ (x. dio)E,
                                      daT,case xT,daT,deT,xaaT of
                                            P xa (xa. case xT,daT,xaT,xaaT of P )T
                                            | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                            (w. xaaa. case case (xaaaT,case xaT,daT,deT,xaaT of
      P x (x. case xaT,daT,xT,xaaT of P )T | \_ (x. dio)E,
                                                    xaaaT,case xT,daT,deT,xaaT of
      P xa (xa. case xT,daT,xaT,xaaT of P
                                               )T | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
                                              | (F, P) (w. w = w)F
                                              | \ (F \ , \ F \ ) \quad (w. \quad w \ = \ w)F \ | \ (F \ , \ \_) \quad dioE
                                              | (_, b) dioE of
                                              w)P
                          | F xb
                               (w. xaaa. case case (xaaaT,case xaT,daT,deT,xaaT of
        P x (x. case xaT,daT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,daT,deT,xaaT of P xa (xa. case xT,daT,xaT,xaaT of P
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                           F
                                                w)F
                          | _ dioE)
                      (case case (daT,case xaT,daT,xaaT,deT of
                                           P x (x. case xaT,daT,xaaT,xT of P )T
                                            | _ (x. dio)E,
                                      daT,case xT,daT,xaaT,deT of
                                            P xa (xa. case xT,daT,xaaT,xaT of P )T
                                            | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, F) dioE
                               | (_, b) dioE of
                          P xb
                            (w. xaaa. case case (xaaaT,case xaT,daT,xaaT,deT of
      P x (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E,
                                                    xaaaT,case xT,daT,xaaT,deT of
                                              )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
      P xa (xa. case xT,daT,xaaT,xaT of P
                                              | (P, F) (w. w = w)F | (P, _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                              w)P
                          | F xb
                              (w. xaaa. case case (xaaaT, case xaT, daT, xaaT, deT of
```

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P x (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,daT,xaaT,deT of P xa (xa. case xT,daT,xaaT,xaT of P )T
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F, F) (w. w = w)F | (F, F) dioE
                                               | (_, b) dioE of
                                               w)F
                | _ dioE of
                                                 P xb
                                                   (w.
  xaa. case case (case case (daT,case xaT,deT,xaaT,daT of
                                       P x (x. case xaT,xT,xaaT,daT of P )T
                                       | _ (x. dio)E,
                                  daT, case xT, deT, xaaT, daT of
                                       | _{-} (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                      P xb
                         (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
   P x (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
                                                xaaaT,case xT,deT,xaaT,daT of
   P xa (xa. case xT,xaT,xaaT,daT of P
                                          )T | _ (x. dio)E) of
                                          (P, P) (w. w = w)P
| (P, F) (w. w = w)F | (P, _) dioE
                                          | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                          | (_, b) dioE of
                                          w)P
                      | F xb
                           (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
     P x (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
                                                  xaaaT,case xT,deT,xaaT,daT of
     P xa (xa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
                                            w)F
                                       F
                      | _ dioE)
                  (case case (daT, case xaT, xaaT, deT, daT of
                                       P x (x. case xaT,xaaT,xT,daT of P )T
                                       | _ (x. dio)E,
                                  daT, case xT, xaaT, deT, daT of
                                       P xa (xa. case xT,xaaT,xaT,daT of P )T
                                        | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                      P xb
                         (w. xaaa. case case (xaaaT,case xaT,xaaT,deT,daT of
   P x (x. case xaT,xaaT,xT,daT of P )T | _ (x. dio)E,
                                                xaaaT,case xT,xaaT,deT,daT of
   P xa (xa. case xT,xaaT,xaT,daT of P
                                          )T | _ (x. dio)E) of
                                          (P , P ) (w. w = w)P
                                          | (P , F ) (w. w = w)F | (P , _) dioE
                                         | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                          | (_, b) dioE of
                                         w)P
```

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| F xb
                          (w. xaaa. case case (xaaaT,case xaT,xaaT,deT,daT of
    P \times (x. case xaT, xaaT, xT, daT of P )T | _ (x. dio)E,
                                                  xaaaT,case xT,xaaT,deT,daT of
                                            )T | _ (x. dio)E) of
    P xa (xa. case xT,xaaT,xaT,daT of P
                                            (P, P) (w. w = w)P
                                            | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                            | (F, F) (w. w = w)F | (F, _) dioE
                                            | (_, b) dioE of
                                       F
                                            w)F
                      | _ dioE)
                  (case case (daT,case xaT,xaaT,daT,deT of
                                        P x (x. case xaT,xaaT,daT,xT of P )T
                                        | _ (x. dio)E,
                                  daT,case xT,xaaT,daT,deT of
                                       P xa (xa. case xT,xaaT,daT,xaT of P )T
                                        | _ (x. dio)E) of
                           (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                           | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                      P vh
                        (w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of
  P \times (x. case xaT, xaaT, daT, xT of P )T | _ (x. dio)E,
                                                xaaaT,case xT,xaaT,daT,deT of
                                          )T | _ (x. dio)E) of (P , P ) (w. w = w)P
  P xa (xa. case xT,xaaT,daT,xaT of P
                                          \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                          | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                          | (_, b) dioE of
                                          w)P
                      | F xb
                          (w. xaaa. case case (xaaaT, case xaT, xaaT, daT, deT of
    P \times (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E,
                                                  xaaaT,case xT,xaaT,daT,deT of
                                             )T | _ (x. dio)E) of
    P xa (xa. case xT,xaaT,daT,xaT of P
                                            (P, P) (w. w = w)P
                                            | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                            \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                            | (_, b) dioE of
                                            w)F
                      | _ dioE) of
            P xb
               (w. xaaa. case (case case (daT,case xaT,deT,xaaT,xaaaT of
P \times (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                daT, case xT, deT, xaaT, xaaaT of
P xa (xa. case xT,xaT,xaaT,xaaaT of P
                                           )T | _ (x. dio)E) of
                                          (P, P) (w. w = w)P
                                          | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                          | (F , F ) (w. w = w)F | (F , _) dioE
                                          | (_, b) dioE of
                                     P xb
                                      (w. xaaaa. case case (xaaaaT, case xaT, deT, xaaT, xaaaT of
                   P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
         xaaaaT,case xT,deT,xaaT,xaaaT of
   P xa (xa. case xT,xaT,xaaT,xaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
   | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
   | (_, b) dioE of
   w)P
                                     I F xb
                                         (w. xaaaa. case case (xaaaaT, case xaT, deT, xaaaT, xaaaT of
                     P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
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Р

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xaaaaT,case xT,deT,xaaT,xaaaT of
       P \ xa \ (xa. \ case \ xT,xaT,xaaT,xaaaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)P \ | \ (P \ , F \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ \ dioE 
      | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
      | (_, b) dioE of
 F
      w)F
                                 | _ dioE)
                              (case case (daT, case xaT, xaaT, deT, xaaaT of
 P x (x. case xaT,xaaT,xT,xaaaT of P )T | \_ (x. dio)E,
                                           daT, case xT, xaaT, deT, xaaaT of
 P xa (xa. case xT,xaaT,xaT,xaaaT of P
                                       )T | _ (x. dio)E) of
                                      (P, P) (w. w = w)P
                                      | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                      | (F, F) (w. w = w)F | (F, _) dioE
                                      | (_, b) dioE of
                                 P xb
                                   (w. xaaaa. case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                  P \times (x. case xaT, xaaT, xT, xaaaT of P )T | _ (x. dio)E,
          xaaaaT,case xT,xaaT,deT,xaaaT of
    | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
    | (_, b) dioE of
Р
    w)P
                                 | F xb
                                     (w. xaaaa. case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                    P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xT,xaaT,deT,xaaaT of
                   P xa (xa. case xT,xaaT,xaaT,xaaaT of P )T | _ (x. dio)E) of
      | (_, b) dioE of
      w)F
                                 | _ dioE)
                              (case case (daT,case xaT,xaaT,xaaaT,deT of
 P x (x. case xaT,xaaT,xaaaT,xT of P )T | \_ (x. dio)E,
                                           daT, case xT, xaaT, xaaaT, deT of
                                      )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
 P xa (xa. case xT,xaaT,xaaaT,xaT of P
                                      \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                      | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                      | (_, b) dioE of
                                 P xb
                                   (w. xaaaa. case case (xaaaaT, case xaT, xaaaT, xaaaT, deT of
                  P \times (x. case xaT, xaaT, xaaaT, xT of P)T | _ (x. dio)E,
          xaaaaT,case xT,xaaT,xaaaT,deT of
    | (_, b) dioE of
   w)P
                                 | F xb
                                     (w. xaaaa. case case (xaaaaT,case xaT,xaaaT,xaaaT,deT of
                   P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,xaaaT,deT of
      | (_, b) dioE of
      w)F
                                 | _ dioE) of
                             w)P
             | F xb
                (w. xaaa. case (case case (daT, case xaT, deT, xaaT, xaaaT of
```

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P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                     daT, case xT, deT, xaaT, xaaaT of
                                              )T | _ (x. dio)E) of
  P xa (xa. case xT,xaT,xaaT,xaaaT of P
                                               (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
                                              . . , . , (w. w - w)r | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
| (_, b) dioE of
                                         P xb
                                           (w. xaaaa. case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                      P \times (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xT,deT,xaaT,xaaaT of
     P \ xa \ (xa. \ case \ xT,xaT,xaaT,xaaT \ of \ P \ )T \ | \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)P \ | \ (P \ , F \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ _) \ \ dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)P
                                         | F xb
                                             (w. xaaaa. case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                        P \times (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xT,deT,xaaT,xaaaT of
                        P xa (xa. case xT,xaT,xaaT,xaaaT of P )T \mid (x. dio)E) of
       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
       w)F
                                         | _ dioE)
                                     (case case (daT,case xaT,xaaT,deT,xaaaT of
  P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
                                                    daT,case xT,xaaT,deT,xaaaT of
  P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                         P xb
                                           (w. xaaaa. case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                      P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,deT,xaaaT of
                    P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E) of
     | (_, b) dioE of
Р
     w)P
                                         | F xb
                                             (w. xaaaa. case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                        P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xT,xaaT,deT,xaaaT of
                      P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E) of
       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
       w)F
                                        | _ dioE)
                                    (case case (daT,case xaT,xaaT,xaaaT,deT of
  P \times (x. case xaT, xaaT, xaaaT, xT of P)T | _ (x. dio)E,
                                                     daT, case xT, xaaT, xaaaT, deT of
  P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of (P , P ) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                         P xb
                                           (w. xaaaa. case case (xaaaaT, case xaT, xaaaT, xaaaT, deT of
```

```
P \times (x. case xaT, xaaT, xaaaT, xT of P) T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,xaaaT,deT of
       P \ xa \ (xa. \ case \ xT, xaaT, xaaaT, xaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ \ dioE 
       | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE 
      | (_, b) dioE of
      w)P
                                       I F xb
                                          (w. xaaaa. case case (xaaaaT, case xaT, xaaaT, xaaaT, deT of
                       P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
              xaaaaT,case xT,xaaT,xaaaT,deT of
                      P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of
        | (_, b) dioE of
        w)F
                                      | _ dioE) of
             w)P
                                                 l F xb
(w. xaa. case case (case case (daT,case xaT,deT,xaaT,daT of
                                          P x (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
                                     daT,case xT,deT,xaaT,daT of
                                          P xa (xa. case xT,xaT,xaaT,daT of P )T
                                           | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                              | (_, b) dioE of
                            (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
      P x (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
                                                  xaaaT,case xT,deT,xaaT,daT of
      P xa (xa. case xT,xaT,xaaT,daT of P
                                             )T | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
                                             | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                             | (_, b) dioE of
                                             w)P
                         | F xb
                             (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
        P \times (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,xaaT,daT of P xa (xa. case xT,xaT,xaaT,daT of P )T
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                              w)F
                         | _ dioE)
                      (case case (daT,case xaT,xaaT,deT,daT of
                                          P x (x. case xaT,xaaT,xT,daT of P )T
                                           | _ (x. dio)E,
                                    daT,case xT,xaaT,deT,daT of
                                          P xa (xa. case xT,xaaT,xaT,daT of P )T
                                           | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                              | (_, b) dioE of
                         P xb
                            (w. xaaa. case case (xaaaT,case xaT,xaaT,deT,daT of
```

```
P x (x. case xaT,xaaT,xT,daT of P )T | _ (x. dio)E,
                                                    xaaaT,case xT,xaaT,deT,daT of
     P xa (xa. case xT,xaaT,xaT,daT of P
                                              )T | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                                        Ρ
                                              w)P
                          | F xb
                             (w. xaaa. case case (xaaaT,case xaT,xaaT,deT,daT of
        P x (x. case xaT,xaaT,xT,daT of P )T | _ (x. dio)E,
xaaaT,case xT,xaaT,deT,daT of P xa (xa. case xT,xaaT,xaT,daT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F, P) (w. w = w)F
                                                | (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                          | dioE)
                      (case case (daT,case xaT,xaaT,daT,deT of
                                           P x (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E,
                                     daT,case xT,xaaT,daT,deT of
                                           P xa (xa. case xT,xaaT,daT,xaT of P )T
                                           | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                          P xb
                            (w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of
     P x (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E,
                                                    xaaaT,case xT,xaaT,daT,deT of
     P xa (xa. case xT,xaaT,daT,xaT of P
                                              )T | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                              w)P
                          | F xb
                              (w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of
        P \times (x. case xaT, xaaT, daT, xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaaT,daT,deT of P xa (xa. case xT,xaaT,daT,xaT of P )T
        | _ (x. dio)E) of
                                                (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                               w)F
                          | _ dioE) of
                  (w. xaaa. case (case case (daT, case xaT, deT, xaaT, xaaaT of
    P \times (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                    daT, case xT, deT, xaaT, xaaaT of
                                              )T | _ (x. dio)E) of
(P, P) (w. w = w)P
    P xa (xa. case xT,xaT,xaaT,xaaaT of P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                              | (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                                        P xb
                                           (w. xaaaa. case case (xaaaaT, case xaT, deT, xaaT, xaaaT of
```

```
P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
               xaaaaT,case xT,deT,xaaT,xaaaT of
         P \ xa \ (xa. \ case \ xT,xaT,xaaT,xaaaT \ of \ P \ )T \ | \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ _) \ \ dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
         | (_, b) dioE of
        w)P
                                            I F xb
case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                    P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xT,deT,xaaT,xaaaT of
      P \ xa \ (xa. \ case \ xT,xaT,xaaT,xaaaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ dioE 
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)F
                                           | _ dioE)
                                        (case case (daT,case xaT,xaaT,deT,xaaaT of
     P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
                                                        daT,case xT,xaaT,deT,xaaaT of
     P xa (xa. case xT,xaaT,xaT,xaaaT of P \, )T \mid \, (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
                                                  | (F, P) (w. w = w)F
                                                  \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                            P xb
                                              (w. xaaaa. case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                         P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
               xaaaaT,case xT,xaaT,deT,xaaaT of
                         P xa (xa. case xT,xaaT,xaaT,xaaaT of P )T \mid (x. dio)E) of
          (P \ , \ P \ ) \quad (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ \_) \quad dioE 
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
         | (_, b) dioE of
        w)P
                                            | F xb
                                                (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                     P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,deT,xaaaT of
     | (_, b) dioE of
     w)F
                                           | _ dioE)
                                       (case case (daT,case xaT,xaaT,xaaaT,deT of
     P \times (x. case xaT, xaaT, xaaaT, xT of P )T | _ (x. dio)E,
                                                       daT, case xT, xaaT, xaaaT, deT of
     P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of  (P \ , \ P \ ) \ (w. \ w = \ w)P 
                                                  \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 (F, P) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
| (_, b) dioE of
                                              (w. xaaaa. case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                         P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
               xaaaaT,case xT,xaaT,xaaaT,deT of
          P \ xa \ (xa. \ case \ xT, xaaT, xaaaT, xaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ \ dioE 
         | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
         | (_, b) dioE of
        w)P
```

| F xb

```
case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                    P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,xaaaT,deT of
     \label{eq:problem} P \ xa \ (xa. \ case \ xT, xaaT, xaaaT, xaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)F
                                       | _ dioE) of w)P
                      (w. xaaa. case (case case (daT,case xaT,deT,xaaT,xaaaT of
       P \times (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
 daT, case xT, deT, xaaT, xaaaT of P xa (xa. case xT, xaT, xaaT, xaaaT of P )T
       | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                   | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                              P xb
                                                (w. xaaaa.
case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                    P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xT,deT,xaaT,xaaaT of
                    P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E) of
     (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
     | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
     | (_, b) dioE of
     w)P
                                             | F xb
                                                  (w. xaaaa.
  case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                       P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xT,deT,xaaT,xaaaT of
        P \ xa \ (xa. \ case \ xT,xaT,xaaT,xaaaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)P \ | \ (P \ , F \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ \ dioE 
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
  F
       w)F
                                             | _ dioE)
                                         (case case (daT,case xaT,xaaT,deT,xaaaT of
       P \times (x. case xaT, xaaT, xT, xaaaT of P )T | _ (x. dio)E,
 daT, case xT, xaaT, deT, xaaaT of P xa (xa. case xT, xaaT, xaT, xaaaT of P )T
       | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                              P xb
                                                (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                    P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,deT,xaaaT of
                    P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E) of
     | (_, b) dioE of
     w)P
                                              | F xb
                                                 (w. xaaaa.
  case case (xaaaaT, case xaT, xaaT, deT, xaaaT of
```

P x (x. case xaT,xaaT,xT,xaaaT of P )T | \_ (x. dio)E,

xaaaaT,case xT,xaaT,deT,xaaaT of

```
| (_, b) dioE of
                                       | _ dioE)
                                    (case case (daT,case xaT,xaaT,xaaaT,deT of
      P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
 daT,case xT,xaaT,xaaaT,deT of P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
      | _ (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                            | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
                                       P xb
                                         (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                  P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
          xaaaaT,case xT,xaaT,xaaaT,deT of
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
    | (_, b) dioE of
Р
    w)P
                                       | F xb
                                           (w. xaaaa.
  case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                   P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,xaaaT,deT of
                   P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of
       (P \ , \ P \ ) \quad (w. \quad w \ = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \quad w \ = \ w)F \ | \ (P \ , \ \_) \quad dioE
      | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
      | (_, b) dioE of
      w)F
                                       | _ dioE) of
                \mbox{I \_ dioE of}
           F
                w)F
                                             | _ dioE) of
                                        Р
                                             w)P
                             | F xa
                               (w. xa. case (case case (case case (daT,case xT,deT,daT,daT of
                            P xa (xa. case xT,xaT,daT,daT of P )T | _ (x. dio)E,
                      daT, case xaT, deT, daT, daT of
                            P \times (x. case xaT,xT,daT,daT of P)T
                 | _ (x. dio)E) of
(P,P) (w. w = w)P | (P,F) (w. w = w)F | (P,_) dioE
                 | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F
                 \mid (F , _) dioE \mid (_, b) dioE of
            P xb
              (w. xaa. case case (xaaT,case xT,deT,daT,daT of
                                         P xa (xa. case xT,xaT,daT,daT of P )T
                                         | _ (x. dio)E,
                                   xaaT,case xaT,deT,daT,daT of
                                        P x (x. case xaT,xT,daT,daT of P )T
                                         | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                             \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                             | (_, b) dioE of
                             w)P
            | F xb
                (w. xaa. case case (xaaT, case xT, deT, daT, daT of
                                           P xa (xa. case xT,xaT,daT,daT of P )T
                                           | _ (x. dio)E,
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xaaT,case xaT,deT,daT,daT of
                                      P x (x. case xaT,xT,daT,daT of P )T
                                      | _ (x. dio)E) of
                         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                         | (P , _) dioE | (F , P ) (w. w = w)F
                         \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                         | (_, b) dioE of
                        w)F
   | _ dioE)
(case case (daT,case xT,daT,deT,daT of
                     P xa (xa. case xT,daT,xaT,daT of P )T | _ (x. dio)E,
               daT, case xaT, daT, deT, daT of
                     P x (x. case xaT,daT,xT,daT of P )T
                     | _ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
   P xb
      (w. xaa. case case (xaaT,case xT,daT,deT,daT of
                                    P xa (xa. case xT,daT,xaT,daT of P )T
                                    | _ (x. dio)E,
                             xaaT,case xaT,daT,deT,daT of
                                    P x (x. case xaT,daT,xT,daT of P )T
                                    | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F
                       | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                       | (_, b) dioE of
                      w)P
   | F xb
        (w. xaa. case case (xaaT, case xT, daT, deT, daT of
                                      P xa (xa. case xT,daT,xaT,daT of P )T
                                      | _ (x. dio)E,
                               xaaT,case xaT,daT,deT,daT of
                                      P x (x. case xaT,daT,xT,daT of P )T
                                      | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                        | (_, b) dioE of
                        w)F
   | _ dioE)
(case case (daT,case xT,daT,daT,deT of
                     P xa (xa. case xT,daT,daT,xaT of P )T | _ (x. dio)E,
               daT, case xaT, daT, daT, deT of
                     P x (x. case xaT,daT,daT,xT of P )T
                     | _{-} (x. dio)E) of
         (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
         | (F, P) (w. w = w)F | (F, F) (w. w = w)F
         \mid (F , _) dioE \mid (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT,case xT,daT,daT,deT of
                                    P xa (xa. case xT,daT,daT,xaT of P )T
                                    | _ (x. dio)E,
                             xaaT,case xaT,daT,daT,deT of
                                   P x (x. case xaT,daT,daT,xT of P )T
                                    | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                       \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                       | (_, b) dioE of
                      w)P
   | F xb
        (w. xaa. case case (xaaT, case xT, daT, daT, deT of
                                      P xa (xa. case xT,daT,daT,xaT of P )T
                                       | _ (x. dio)E,
```

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xaaT,case xaT,daT,daT,deT of
                                               P x (x. case xaT,daT,daT,xT of P )T
                                               | _ (x. dio)E) of
                                  (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                  | (P , _) dioE | (F , P ) (w. w = w)F
                                  | (F , F ) (w. w = w)F | (F , _) dioE
                                  | (_, b) dioE of
                                 w)F
            | _ dioE) of
   P xb
     (w. xaa. case (case case (daT,case xT,deT,daT,xaaT of
                                           P xa (xa. case xT,xaT,daT,xaaT of P )T
                                            | _ (x. dio)E,
                                     daT, case xaT, deT, daT, xaaT of
                                            P x (x. case xaT,xT,daT,xaaT of P )T
                                            | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                            (w. xaaa. case case (xaaaT,case xT,deT,daT,xaaT of
      P xa (xa. case xT,xaT,daT,xaaT of P )T \mid _ (x. dio)E,
                                                    xaaaT,case xaT,deT,daT,xaaT of
      P x (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F, P) (w. w = w)F
                                              | \ (F \ , \ F \ ) \quad (w. \quad w \ = \ w)F \ | \ (F \ , \ \_) \quad dioE
                                              | (_, b) dioE of
                                              w)P
                          | F xb
                               (w. xaaa. case case (xaaaT,case xT,deT,daT,xaaT of
        P xa (xa. case xT,xaT,daT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xaT,deT,daT,xaaT of P x (x. case xaT,xT,daT,xaaT of P
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                           F
                                                w)F
                          | _ dioE)
                      (case case (daT, case xT, daT, deT, xaaT of
                                           P xa (xa. case xT,daT,xaT,xaaT of P )T
                                            | _ (x. dio)E,
                                      daT,case xaT,daT,deT,xaaT of
                                            P x (x. case xaT,daT,xT,xaaT of P )T
                                            | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, F) dioE
                               | (_, b) dioE of
                          P xb
                            (w. xaaa. case case (xaaaT, case xT, daT, deT, xaaT of
      P xa (xa. case xT,daT,xaT,xaaT of P )T | \_ (x. dio)E,
                                                   xaaaT,case xaT,daT,deT,xaaT of
      P x (x. case xaT,daT,xT,xaaT of P
                                             )T \mid _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P, F) (w. w = w)F | (P, _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                              w)P
                          | F xb
                              (w. xaaa. case case (xaaaT, case xT, daT, deT, xaaT of
```

```
P xa (xa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xaT,daT,deT,xaaT of P x (x. case xaT,daT,xT,xaaT of P
        | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                                              w)F
                         | _ dioE)
                     (case case (daT,case xT,daT,xaaT,deT of
                                          P xa (xa. case xT,daT,xaaT,xaT of P )T
                                          | _ (x. dio)E,
                                    daT, case xaT, daT, xaaT, deT of
                                          P x (x. case xaT,daT,xaaT,xT of P )T
                                          | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                              | (_, b) dioE of
                           (w. xaaa. case case (xaaaT,case xT,daT,xaaT,deT of
      P xa (xa. case xT,daT,xaT,xaT of P )T \mid _ (x. dio)E,
                                                  xaaaT.case xaT.daT.xaaT.deT of
     P x (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                            | (F, P) (w. w = w)F
                                            | \ (F \ , \ F \ ) \quad (w. \quad w \ = \ w)F \ | \ (F \ , \ \_) \quad dioE
                                            | (_, b) dioE of
                                            w)P
                         | F xb
                             (w. xaaa. case case (xaaaT,case xT,daT,xaaT,deT of
       P xa (xa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
xaaaT,case xaT,daT,xaaT,deT of P x (x. case xaT,daT,xaaT,xT of P
        | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                              w)F
                        | _ dioE) of
   | F xb
       (w. xaa. case (case case (daT, case xT, deT, daT, xaaT of
                                            P xa (xa. case xT,xaT,daT,xaaT of P )T
                                            | _ (x. dio)E,
                                      daT,case xaT,deT,daT,xaaT of
                                           P x (x. case xaT,xT,daT,xaaT of P )T
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
                           P xb
                             (w. xaaa. case case (xaaaT,case xT,deT,daT,xaaT of
        P xa (xa. case xT,xaT,daT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xaT,deT,daT,xaaT of P x (x. case xaT,xT,daT,xaaT of P
        | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
                                              | (F, P) (w. w = w)F
                                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                              | (_, b) dioE of
                                              w)P
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| F xb
                                (w. xaaa. case case (xaaaT, case xT, deT, daT, xaaT of
          P xa (xa. case xT,xaT,daT,xaaT of P )T \mid _ (x. dio)E,
  xaaaT,case xaT,deT,daT,xaaT of P x (x. case xaT,xT,daT,xaaT of P
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                  \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                            | _ dioE)
                        (case case (daT,case xT,daT,deT,xaaT of
                                              P xa (xa. case xT,daT,xaT,xaaT of P )T
                                              | _ (x. dio)E,
                                        daT,case xaT,daT,deT,xaaT of
                                             P x (x. case xaT,daT,xT,xaaT of P )T
                                              | _ (x. dio)E) of
                                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b)  dioE of
                            P xb
                              (w. xaaa. case case (xaaaT,case xT,daT,deT,xaaT of
        P xa (xa. case xT,daT,xaT,xaaT of P )T \mid _ (x. dio)E,
xaaaT,case xaT,daT,deT,xaaT of P x (x. case xaT,daT,xT,xaaT of P
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                | (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                           Ρ
                                                w)P
                            | F xb
                                (w. xaaa. case case (xaaaT,case xT,daT,deT,xaaT of
          P xa (xa. case xT,daT,xaT,xaaT of P )T \mid _ (x. dio)E,
  xaaaT,case xaT,daT,deT,xaaT of P x (x. case xaT,daT,xT,xaaT of P
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
                                                  | (F, P) (w. w = w)F
                                                  \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                            | _ dioE)
                        (case case (daT,case xT,daT,xaaT,deT of
                                              P xa (xa. case xT,daT,xaaT,xaT of P )T
                                              | _ (x. dio)E,
                                        daT,case xaT,daT,xaaT,deT of
                                             P x (x. case xaT,daT,xaaT,xT of P )T
                                  | \  \  | \  \  (x.\ dio)E) \ of \\ (P\ ,\ P\ ) \  \  (w.\ w\ =\ w)P\ | \  (P\ ,\ F\ ) \  \  (w.\ w\ =\ w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT,case xT,daT,xaaT,deT of
        P xa (xa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
xaaaT,case xaT,daT,xaaT,deT of P x (x. case xaT,daT,xaaT,xT of P
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
                                                | (F, P) (w. w = w)F
                                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                | (_, b) dioE of
                                                w)P
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| F xb
                                (w. xaaa. case case (xaaaT, case xT, daT, xaaT, deT of
          P xa (xa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
  xaaaT,case xaT,daT,xaaT,deT of P x (x. case xaT,daT,xaaT,xT of P
         | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                  \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)F
                           | _ dioE) of
                  F w)F
   | _ dioE of
(w. xaa. case case (case case (daT,case xT,deT,xaaT,daT of
                                           P xa (xa. case xT,xaT,xaaT,daT of P )T
                                           | _ (x. dio)E,
                                     daT,case xaT,deT,xaaT,daT of
                                           P x (x. case xaT,xT,xaaT,daT of P)T
                                           | _ (x. dio)E) of
                               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                          P xb
                            (w. xaaa. case case (xaaaT,case xT,deT,xaaT,daT of
      P xa (xa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
                                                   xaaaT,case xaT,deT,xaaT,daT of
                                           )T \mid _ (x. dio)E) of
      P x (x. case xaT,xT,xaaT,daT of P
                                             (P, P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                             | (F , F ) (w. w = w)F | (F , _) dioE
                                             | (_, b) dioE of
                                             w)P
                          | F xb
                              (w. xaaa. case case (xaaaT,case xT,deT,xaaT,daT of
        P xa (xa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
xaaaT,case xaT,deT,xaaT,daT of P x (x. case xaT,xT,xaaT,daT of P
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
                                                | (F, P) (w. w = w)F
                                                | (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                               w)F
                         | _ dioE)
                      (case case (daT,case xT,xaaT,deT,daT of
                                           P xa (xa. case xT,xaaT,xaT,daT of P )T
                                           | _ (x. dio)E,
                                     daT,case xaT,xaaT,deT,daT of
                                           P x (x. case xaT,xaaT,xT,daT of P )T
                                           | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               \label{eq:continuous} | \ (P \ , \ \_) \quad \mbox{dioE} \ | \ (F \ , \ P \ ) \quad (w. \quad w \ = \ w)F
                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                               | (_, b) dioE of
                            (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
      P xa (xa. case xT,xaaT,xaT,daT of P )T | _ (x. dio)E,
                                                   xaaaT,case xaT,xaaT,deT,daT of
      P x (x. case xaT,xaaT,xT,daT of P
                                            )T | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
| (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
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| (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                         Р
                                               w)P
                          | F xb
                              (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
        P xa (xa. case xT,xaaT,xaT,daT of P )T \mid _ (x. dio)E,
xaaaT,case xaT,xaaT,deT,daT of P x (x. case xaT,xaaT,xT,daT of P
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)F
                          | _ dioE)
                      (case case (daT,case xT,xaaT,daT,deT of
                                            P xa (xa. case xT,xaaT,daT,xaT of P )T
                                            | _ (x. dio)E,
                                      daT,case xaT,xaaT,daT,deT of
                                            P x (x. case xaT,xaaT,daT,xT of P )T
                                            | _ (x. dio)E) of
                                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
                          P xb
                             (w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
      P xa (xa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
                                                    xaaaT,case xaT,xaaT,daT,deT of
      P x (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                               | (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                               w)P
                          | F xb
                               (w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
        P xa (xa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
xaaaT,case xaT,xaaT,daT,deT of P x (x. case xaT,xaaT,daT,xT of P
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 | (F, P) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)F
                          | _ dioE) of
                 P xb
                   (w. xaaa. case (case case (daT, case xT, deT, xaaaT, xaaaT of
    P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                     daT, case xaT, deT, xaaT, xaaaT of
                                             )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
    P x (x. case xaT,xT,xaaT,xaaaT of P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                               | (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                                         P xb
                                            (w. xaaaa. case case (xaaaaT, case xT, deT, xaaT, xaaaT of
                       P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
              xaaaaT,case xaT,deT,xaaT,xaaaT of
       P x (x. case xaT,xT,xaaT,xaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
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Р
      w)P
                                         | F xb
                                             (w. xaaaa.
case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                  P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,deT,xaaT,xaaaT of
     P x (x. case xaT,xT,xaaT,xaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)F
                                        | _ dioE)
                                     (case case (daT,case xT,xaaT,deT,xaaaT of
     P xa (xa. case xT,xaaT,xaaaT of P )T \mid (x. dio)E,
                                                    daT, case xaT, xaaT, deT, xaaaT of
     P x (x. case xaT,xaaT,xT,xaaaT of P )T | \_ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P, F) (w. w = w)F | (P, _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                         P xb
                                           (w. xaaaa. case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                       P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | \_ (x. dio)E,
              xaaaaT,case xaT,xaaT,deT,xaaaT of
         P \ x \ (x. \ case \ xaT, xaaT, xT, xaaaT \ of \ P \ )T \ | \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ dioE 
        | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
       w)P
                                         | F xb
                                             (w. xaaaa.
case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                   P xa (xa. case xT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,xaaT,deT,xaaaT of
                   P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of
     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
    w)F
                                        | _ dioE)
                                     (case case (daT, case xT, xaaT, xaaaT, deT of
     P xa (xa. case xT,xaaT,xaaaT,xaT of P )T \mid _ (x. dio)E,
                                                   daT,case xaT,xaaT,xaaaT,deT of
     P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P, F) (w. w = w)F | (P, _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                         P xb
                                            (w. xaaaa. case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                       P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
              xaaaaT,case xaT,xaaT,xaaaT,deT of
                      P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
        (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
        | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
        | (_, b) dioE of
       w)P
                                         | F xb
                                             (w. xaaaa.
case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                   P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,xaaT,xaaaT,deT of
                   P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
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| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
    | (_, b) dioE of
    w)F
                                      | _ dioE) of
                | F xb
                    (w. xaaa. case (case case (daT, case xT, deT, xaaT, xaaaT of
      P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
 daT, case xaT, deT, xaaT, xaaaT of P x (x. case xaT, xT, xaaT, xaaaT of P
      | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                         P xb
                                           (w. xaaaa.
case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                   P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
           xaaaaT,case xaT,deT,xaaT,xaaaT of
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
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Р
     w)P
                                         | F xb
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  case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                     P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xaT,deT,xaaT,xaaaT of
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
      w)F
                                         | _ dioE)
                                     (case case (daT, case xT, xaaT, deT, xaaaT of
      P xa (xa. case xT,xaaT,xaaT,xaaaT of P \, )T | \, (x. dio)E,
 daT, case xaT, xaaT, deT, xaaaT of P x (x. case xaT, xaaT, xT, xaaaT of P )T
      | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                              | (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                                         P xb
                                           (w. xaaaa.
case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                  P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,xaaT,deT,xaaaT of
    P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
    | (_, b) dioE of
    w)P
                                         | F xb
                                             (w. xaaaa.
  case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                     P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xaT,xaaT,deT,xaaaT of
       \label{eq:problem} P\ x\ (x.\ case\ xaT,xaaT,xT,xaaaT\ of\ P\ )T\ |\ \_\ (x.\ dio)E)\ of\ (P\ ,\ P\ )\ (w.\ w=\ w)F\ |\ (P\ ,\ \_)\ dioE
       | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
       | (_, b) dioE of
  F
      w)F
                                         | _ dioE)
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(case case (daT,case xT,xaaT,xaaaT,deT of
      P xa (xa. case xT,xaaT,xaaaT,xaT of P )T \mid _ (x. dio)E,
daT,case xaT,xaaT,xaaaT,deT of P x (x. case xaT,xaaT,xaaaT,xT of P )T
      | _ (x. dio)E) of
                                               (P , P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                          P xb
                                            (w. xaaaa.
case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                   P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
          xaaaaT,case xaT,xaaT,xaaaT,deT of
     | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
    | (_, b) dioE of
    w)P
                                          | F xb
                                              (w. xaaaa.
 case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                     P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
            xaaaaT,case xaT,xaaT,xaaaT,deT of
                     P \times (x. case xaT, xaaT, xaaaT, xT of P )T | _ (x. dio)E) of
      (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
      | (_, b) dioE of
      w)F
                                | _ dioE of
                w)P
                                                  | F xb
  (w. xaa. case case (case case (daT,case xT,deT,xaaT,daT of
                                            P xa (xa. case xT,xaT,xaaT,daT of P )T
                                            | _ (x. dio)E,
                                       daT, case xaT, deT, xaaT, daT of
                                            P x (x. case xaT,xT,xaaT,daT of P )T
                                            | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT,case xT,deT,xaaT,daT of
        P xa (xa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
xaaaT,case xaT,deT,xaaT,daT of P x (x. case xaT,xT,xaaT,daT of P
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                               | (_, b) dioE of
                                               w)P
                            | F xb
                                (w. xaaa. case case (xaaaT,case xT,deT,xaaT,daT of
          P xa (xa. case xT,xaT,xaaT,daT of P )T \mid _ (x. dio)E,
  xaaaT,case xaT,deT,xaaT,daT of P x (x. case xaT,xT,xaaT,daT of P
          | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
                                                 | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)F
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| _ dioE)
                        (case case (daT,case xT,xaaT,deT,daT of
                                              P xa (xa. case xT,xaaT,xaT,daT of P )T
                                              | _ (x. dio)E,
                                        daT,case xaT,xaaT,deT,daT of
                                              P x (x. case xaT,xaaT,xT,daT of P )T
                                  | _ (x. dio)E) of
(P,P) (w. w = w)P | (P,F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                  | (_, b) dioE of
                               (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
        P xa (xa. case xT,xaaT,xaT,daT of P )T \mid _ (x. dio)E,
xaaaT,case xaT,xaaT,deT,daT of P x (x. case xaT,xaaT,xT,daT of P
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                 w)P
                            | F xb
                                (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
          P xa (xa. case xT,xaaT,xaT,daT of P )T \mid _ (x. dio)E,
  xaaaT,case xaT,xaaT,deT,daT of P x (x. case xaT,xaaT,xT,daT of P
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                   | (F, F) (w. w = w)F | (F, _) dioE
                                                   | (_, b) dioE of
                                                   w)F
                            | _ dioE)
                        (case case (daT,case xT,xaaT,daT,deT of
                                              P xa (xa. case xT,xaaT,daT,xaT of P )T
                                              | _ (x. dio)E,
                                        daT, case xaT, xaaT, daT, deT of
                                              P x (x. case xaT,xaaT,daT,xT of P )T
                                              | _ (x. dio)E) of
                                  (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                  | (_, b) dioE of
                            P xb
                               (w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
        P xa (xa. case xT,xaaT,daT,xaT of P )T \mid _ (x. dio)E,
xaaaT,case xaT,xaaT,daT,deT of P x (x. case xaT,xaaT,daT,xT of P
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F | (F, _) dioE
| (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                                 w)P
                            | F xb
                                 (w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
          P xa (xa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
  xaaaT,case xaT,xaaT,daT,deT of P x (x. case xaT,xaaT,daT,xT of P
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P , F ) (w. w = w)F | (P , _) dioE
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)F
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| _ dioE) of
                   (w. xaaa. case (case case (daT,case xT,deT,xaaT,xaaaT of
      P xa (xa. case xT,xaT,xaaT,xaaaT of P )T \mid (x. dio)E,
daT,case xaT,deT,xaaT,xaaaT of P x (x. case xaT,xT,xaaT,xaaaT of P
      | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
                                             | (F, P) (w. w = w)F
                                             \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                             | (_, b) dioE of
                                        P xb
                                          (w. xaaaa.
case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                  P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
          xaaaaT,case xaT,deT,xaaT,xaaaT of
                  P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
    | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
    | (_, b) dioE of
    w)P
                                        | F xb
                                           (w. xaaaa.
 case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                    P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xaT,deT,xaaT,xaaaT of
                   P x (x. case xaT,xT,xaaT,xaaaT of P )T \mid (x. dio)E) of
      (P , P) (w. w = w)P | (P , F) (w. w = w)F | (P , _) dioE
      \label{eq:continuous} | \ (F \ , \ P \ ) \ \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
      | (_, b) dioE of
      w)F
                                        | _ dioE)
                                    (case case (daT,case xT,xaaT,deT,xaaaT of
      P xa (xa. case xT,xaaT,xaaaT of P )T \mid (x. dio)E,
 daT,case xaT,xaaT,deT,xaaaT of P x (x. case xaT,xaaT,xT,xaaaT of P
      | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                             | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                             | (_, b) dioE of
                                        P xb
                                         (w. xaaaa.
case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                  P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
          xaaaaT,case xaT,xaaT,deT,xaaaT of
    | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
    | (_, b) dioE of
    w)P
                                        | F xb
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 case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                    P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xaT,xaaT,deT,xaaaT of
                   P \times (x. case xaT, xaaT, xT, xaaaT of P )T | _ (x. dio)E) of
      (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
      | (_, b) dioE of
      w)F
                                        | _ dioE)
                                    (case case (daT,case xT,xaaT,xaaaT,deT of
      P xa (xa. case xT,xaaT,xaaaT,xaT of P )T \mid _ (x. dio)E,
 daT,case xaT,xaaT,xaaaT,deT of P x (x. case xaT,xaaT,xaaaT,xT of P )T
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| \_ (x. dio)E) of

```
(P, P) (w. w = w)P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                 | (_, b) dioE of
                                           P vh
                                              (w. xaaaa.
case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                    P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,xaaT,xaaaT,deT of
                    P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
     (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
     | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
     | (_, b) dioE of
     w)P
                                           | F xb
                                               (w. xaaaa.
  case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                      P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
             xaaaaT,case xaT,xaaT,xaaaT,deT of
                     P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
  F
       w)F
                                           | _ dioE) of
                   | F xb
                       (w. xaaa. case (case case (daT,case xT,deT,xaaT,xaaaT of
         P xa (xa. case xT,xaT,xaaT,xaaaT of P \, )T | \, (x. dio)E,
   daT, case xaT, deT, xaaT, xaaaT of P x (x. case xaT, xT, xaaT, xaaaT of P )T
         | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                  | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                   | (_, b) dioE of
                                             P xb
                                                (w. xaaaa.
  case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                      P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xaT,deT,xaaT,xaaaT of
                     P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
       (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
       w)P
                                             | F xb
                                                 (w.
xaaaa. case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                            P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
                             | _ (x. dio)E,
                   xaaaaT,case xaT,deT,xaaT,xaaaT of
                            P x (x. case xaT,xT,xaaT,xaaaT of P )T
                             | _ (x. dio)E) of
              (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
             \label{eq:continuous} | \ (\texttt{F} \ , \ \texttt{P} \ ) \quad (\texttt{w}. \ \ \texttt{w} \ = \ \texttt{w}) \texttt{F} \ | \ (\texttt{F} \ , \ \_) \quad \texttt{dioE}
             | (_, b)  dioE of
             w)F
                                             | _ dioE)
                                         (case case (daT,case xT,xaaT,deT,xaaaT of
         P xa (xa. case xT,xaaT,xaT,xaaaT of P )T \mid _ (x. dio)E,
   daT,case xaT,xaaT,deT,xaaaT of P x (x. case xaT,xaaT,xT,xaaaT of P )T
         | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
```

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| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                        | (_, b) dioE of
                                    P xb
                                      (w. xaaaa.
 case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                  P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
          xaaaaT,case xaT,xaaT,deT,xaaaT of
     | (_, b) dioE of
     w)P
 Ρ
                                    | F xb
                                       (w.
xaaaa. case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                       P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
                       | _ (x. dio)E,
               xaaaaT,case xaT,xaaT,deT,xaaaT of
                       P x (x. case xaT,xaaT,xT,xaaaT of P )T
           | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
          | (_, b) dioE of
      F
          w)F
                                    | _ dioE)
                                 (case case (daT,case xT,xaaT,xaaaT,deT of
       P xa (xa. case xT,xaaT,xaaaT,xaT of P )T \mid _ (x. dio)E,
  daT,case xaT,xaaT,xaaaT,deT of P x (x. case xaT,xaaT,xaaaT,xT of P )T
       | _ (x. dio)E) of
                                        (P, P) (w. w = w)P
                                        | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                        | (F, F) (w. w = w)F | (F, _) dioE
                                        | (_, b) dioE of
                                    P xb
                                      (w. xaaaa.
 case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                  P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
          xaaaaT,case xaT,xaaT,xaaaT,deT of
                 P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
      | (_, b) dioE of
 Р
     w)P
xaaaa. case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                      P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
                       | _ (x. dio)E,
               xaaaaT,case xaT,xaaT,xaaaT,deT of
                       P x (x. case xaT,xaaT,xaaaT,xT of P )T
           | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
          | (_, b) dioE of
      F
          w)F
                               | _ dioE) of
                            F
               | _ dioE of
               w)F
                                          | _ dioE)
                                         (case case (case case (daT, case xaT, deT, daT, daT of
                        P x (x. case xaT,xT,daT,daT of P )T | _ (x. dio)E,
                    daT,case xT,deT,daT,daT of
                        P xa (xa. case xT,xaT,daT,daT of P )T
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```
| _ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, __) dioE | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case xaT,deT,daT,daT of
                                     P x (x. case xaT,xT,daT,daT of P )T | _ (x. dio)E,
                              xaaT,case xT,deT,daT,daT of
                                     P xa (xa. case xT,xaT,daT,daT of P )T
                                     | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                       | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                       | (_, b) dioE of
                       w)P
    | F xb
        (w. xaa. case case (xaaT,case xaT,deT,daT,daT of
                                       P x (x. case xaT,xT,daT,daT of P )T
                                       | _ (x. dio)E,
                                xaaT,case xT,deT,daT,daT of
                                       P xa (xa. case xT,xaT,daT,daT of P )T
                                       | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                         | (_, b) dioE of
                    F
                         w)F
   | _ dioE)
(case case (daT,case xaT,daT,deT,daT of
                     P x (x. case xaT,daT,xT,daT of P )T | _ (x. dio)E,
                daT,case xT,daT,deT,daT of
                      P xa (xa. case xT,daT,xaT,daT of P )T
                      | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
         | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT, case xaT, daT, deT, daT of
                                     P x (x. case xaT,daT,xT,daT of P
                                     | _ (x. dio)E,
                              xaaT,case xT,daT,deT,daT of
                                     P xa (xa. case xT,daT,xaT,daT of P )T
                                     | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                       \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                       | (_, b) dioE of
                       w)P
    | F xb
        (w. xaa. case case (xaaT,case xaT,daT,deT,daT of
                                       P \times (x. case xaT,daT,xT,daT of P)T
                                       | _ (x. dio)E,
                                xaaT,case xT,daT,deT,daT of
                                       P xa (xa. case xT,daT,xaT,daT of P )T
                                       | _ (x. dio)E) of
                          (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                         | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                         | (_, b) dioE of
                         w)F
   | _ dioE)
(case case (daT,case xaT,daT,daT,deT of
                     P x (x. case xaT,daT,daT,xT of P )T | _ (x. dio)E,
                daT,case xT,daT,daT,deT of
                      P xa (xa. case xT,daT,daT,xaT of P )T
```

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| _ (x. dio)E) of
                                     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, __) dioE | (_, b) dioE of
                          P xb
                               (w. xaa. case case (xaaT,case xaT,daT,daT,deT of
                                                                                               P x (x. case xaT,daT,daT,xT of P )T | _ (x. dio)E,
                                                                                xaaT,case xT,daT,daT,deT of
                                                                                               P xa (xa. case xT,daT,daT,xaT of P )T
                                                                                               | _ (x. dio)E) of
                                                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                                                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                                   | (_, b) dioE of
                                                                  w)P
                          | F xb
                                   (w. xaa. case case (xaaT,case xaT,daT,daT,deT of
                                                                                                   P x (x. case xaT,daT,daT,xT of P )T
                                                                                                    | _ (x. dio)E,
                                                                                    xaaT,case xT,daT,daT,deT of
                                                                                                   P xa (xa. case xT,daT,daT,xaT of P )T
                                                                                                  | _ (x. dio)E) of
                                                                       (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                                                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                                      | (_, b) dioE of
                                                                       w)F
                          | _ dioE) of
      P xb
          (w. xaa. case (case case (daT, case xaT, deT, daT, xaaT of
                                                                                            P x (x. case xaT,xT,daT,xaaT of P )T
                                                                                             | _ (x. dio)E,
                                                                                daT,case xT,deT,daT,xaaT of
                                                                                            P xa (xa. case xT,xaT,daT,xaaT of P )T
                                                                                             | _ (x. dio)E) of
                                                                  (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, F) (w. w = w)F | (F, F) (w
                                                                   | (_, b) dioE of
                                                       P xb
                                                            (w. xaaa. case case (xaaaT, case xaT, deT, daT, xaaT of
            P x (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E,
                                                                                                              xaaaT,case xT,deT,daT,xaaT of
                                                                                                  )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
            P xa (xa. case xT,xaT,daT,xaaT of P
                                                                                                  | (P, F) (w. w = w)F | (P, _) dioE
                                                                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                                                                 | (_, b) dioE of
                                                                                                 w)P
                                                                                      Р
                                                                (w. xaaa. case case (xaaaT,case xaT,deT,daT,xaaT of
                 P x (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,daT,xaaT of P xa (xa. case xT,xaT,daT,xaaT of P )T
                | _ (x. dio)E) of
                                                                                                       (P, P) (w. w = w)P
                                                                                                      | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                                                                      | (F, F) (w. w = w)F | (F, _) dioE
                                                                                                      | (_, b) dioE of
                                                                                                      w)F
                                                       | _ dioE)
                                               (case case (daT, case xaT, daT, deT, xaaT of
                                                                                             P \times (x. case xaT,daT,xT,xaaT of P)T
                                                                                             | _ (x. dio)E,
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daT, case xT, daT, deT, xaaT of
                                                                                       P xa (xa. case xT,daT,xaT,xaaT of P )T
                                                                                       | _ (x. dio)E) of
                                                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                                              \label{eq:continuous} | \ (P \ , \ \_) \quad \mbox{dioE} \ | \ (F \ , \ P \ ) \quad (w. \quad w \ = \ w)F
                                                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                              | (_, b) dioE of
                                                         (w. xaaa. case case (xaaaT, case xaT, daT, deT, xaaT of
           P x (x. case xaT,daT,xT,xaaT of P )T | _ (x. dio)E,
                                                                                                       xaaaT,case xT,daT,deT,xaaT of
           P xa (xa. case xT,daT,xaT,xaaT of P )T \mid _ (x. dio)E) of
                                                                                            (P , P ) (w. w = w)P
                                                                                            \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                                                            | (F, F) (w. w = w)F | (F, L) dioE
                                                                                            | (_, b) dioE of
                                                                                            w)P
                                                    I F xb
                                                             (w. xaaa. case case (xaaaT,case xaT,daT,deT,xaaT of
                P x (x. case xaT,daT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,daT,deT,xaaT of P xa (xa. case xT,daT,xaT,xaaT of P )T
                | _ (x. dio)E) of
                                                                                                (P, P) (w. w = w)P
                                                                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                                                                | (_, b) dioE of
                                                                                                w)F
                                                   | _ dioE)
                                            (case case (daT,case xaT,daT,xaaT,deT of
                                                                                       P x (x. case xaT,daT,xaaT,xT of P )T
                                                                                       | _ (x. dio)E,
                                                                           daT, case xT, daT, xaaT, deT of
                                                                                       P xa (xa. case xT,daT,xaaT,xaT of P )T
                                                                                       | _ (x. dio)E) of
                                                              (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, F) (w. w = w)F | (F, F) (w
                                                              | (_, b) dioE of
                                                    P xb
                                                        (w. xaaa. case case (xaaaT,case xaT,daT,xaaT,deT of
           P \times (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E,
                                                                                                       xaaaT,case xT,daT,xaaT,deT of
                                                                                            )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
           P xa (xa. case xT,daT,xaaT,xaT of P
                                                                                            | (P, F) (w. w = w)F | (P, _) dioE
                                                                                            | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                                                            | (_, b) dioE of
                                                                                           w)P
                                                                                 Р
                                                    | F xb
                                                            (w. xaaa. case case (xaaaT,case xaT,daT,xaaT,deT of
                P x (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,daT,xaaT,deT of P xa (xa. case xT,daT,xaaT,xaT of P )T
               | _ (x. dio)E) of
                                                                                                (P, P) (w. w = w)P
                                                                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                                                                | (F, F) (w. w = w)F | (F, _) dioE
                                                                                               | (_, b) dioE of
                                                                                               w)F
                                          | _ dioE) of w)P
      I F xb
              (w. xaa. case (case case (daT, case xaT, deT, daT, xaaT of
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P x (x. case xaT,xT,daT,xaaT of P )T
                                           | _ (x. dio)E,
                                      daT,case xT,deT,daT,xaaT of
                                           P xa (xa. case xT,xaT,daT,xaaT of P )T
                                           | _ (x. dio)E) of
                                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                           P xb
                             (w. xaaa. case case (xaaaT,case xaT,deT,daT,xaaT of
        P x (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,daT,xaaT of P xa (xa. case xT,xaT,daT,xaaT of P )T
       | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                              | (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                              w)P
                           | F xb
                              (w. xaaa. case case (xaaaT,case xaT,deT,daT,xaaT of
         P \times (x. case xaT,xT,daT,xaaT of P) T | _ (x. dio)E,
 xaaaT,case xT,deT,daT,xaaT of P xa (xa. case xT,xaT,daT,xaaT of P
         | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                | (_, b) dioE of
                                               w)F
                          | _ dioE)
                       (case case (daT,case xaT,daT,deT,xaaT of
                                           P x (x. case xaT,daT,xT,xaaT of P )T
                                           | _ (x. dio)E,
                                      daT, case xT, daT, deT, xaaT of
                                           P xa (xa. case xT,daT,xaT,xaaT of P )T
                                           | _ (x. dio)E) of
                                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                               | (_, b) dioE of
                           P xb
                             (w. xaaa. case case (xaaaT,case xaT,daT,deT,xaaT of
       P x (x. case xaT,daT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,daT,deT,xaaT of P xa (xa. case xT,daT,xaT,xaaT of P )T
       | _ (x. dio)E) of
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                              w)P
                           | F xb
                              (w. xaaa. case case (xaaaT,case xaT,daT,deT,xaaT of
         P \times (x. case xaT,daT,xT,xaaT of P )T | _ (x. dio)E,
 xaaaT,case xT,daT,deT,xaaT of P xa (xa. case xT,daT,xaT,xaaT of P )T
         | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                               w)F
                          | _ dioE)
                       (case case (daT, case xaT, daT, xaaT, deT of
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P x (x. case xaT,daT,xaaT,xT of P )T
                                            | _ (x. dio)E,
                                      daT,case xT,daT,xaaT,deT of
                                            P xa (xa. case xT,daT,xaaT,xaT of P )T
                                            | _ (x. dio)E) of
                                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
                           P xb
                             (w. xaaa. case case (xaaaT,case xaT,daT,xaaT,deT of
        P x (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,daT,xaaT,deT of P xa (xa. case xT,daT,xaaT,xaT of P )T
       | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                              | (_, b) dioE of
                                              w)P
                           | F xb
                              (w. xaaa. case case (xaaaT,case xaT,daT,xaaT,deT of
         P x (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E,
 xaaaT,case xT,daT,xaaT,deT of P xa (xa. case xT,daT,xaaT,xaT of P
         | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                          | _ dioE) of
                      w)F
   | _ dioE of
                                                  P xb
(w. xaa. case case (case case (daT,case xaT,deT,xaaT,daT of
                                         P x (x. case xaT,xT,xaaT,daT of P )T
                                          | _ (x. dio)E,
                                    daT, case xT, deT, xaaT, daT of
                                         P xa (xa. case xT,xaT,xaaT,daT of P )T
                                          | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, _P) (w. w = w)F
                              | (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                           (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
     P x (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
                                                  xaaaT,case xT,deT,xaaT,daT of
                                            )T | _ (x. dio)E) of
     P xa (xa. case xT,xaT,xaaT,daT of P
                                            (P , P) (w. w = w)P
                                            | (P, F) (w. w = w)F | (P, _) dioE
                                            | (F, P) (w. w = w)F
                                            | (F , F ) (w. w = w)F | (F , _) dioE
                                            | (_, b) dioE of
                                            w)P
                         l F xb
                             (w. xaaa. case case (xaaaT, case xaT, deT, xaaT, daT of
       P x (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,xaaT,daT of P xa (xa. case xT,xaT,xaaT,daT of P )T
       | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
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F w)F
                         | _ dioE)
                      (case case (daT,case xaT,xaaT,deT,daT of
                                           P x (x. case xaT,xaaT,xT,daT of P )T
                                           | _ (x. dio)E,
                                     daT,case xT,xaaT,deT,daT of
                                           P xa (xa. case xT,xaaT,xaT,daT of P )T
                                           | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                         P xb
                            (w. xaaa. case case (xaaaT,case xaT,xaaT,deT,daT of
      P x (x. case xaT,xaaT,xT,daT of P )T | \_ (x. dio)E,
                                                   xaaaT,case xT,xaaT,deT,daT of
     P xa (xa. case xT,xaaT,xaT,daT of P
                                             )T | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                             | (_, b) dioE of
                                             w)P
                         | F xb
                             (w. xaaa. case case (xaaaT,case xaT,xaaT,deT,daT of
        P \times (x. case xaT, xaaT, xT, daT of P)T | _ (x. dio)E,
xaaaT,case xT,xaaT,deT,daT of P xa (xa. case xT,xaaT,xaT,daT of P )T
        | _ (x. dio)E) of
                                               (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                               w)F
                         | _ dioE)
                      (case case (daT,case xaT,xaaT,daT,deT of
                                          P x (x. case xaT,xaaT,daT,xT of P )T
                                           | _ (x. dio)E,
                                     daT, case xT, xaaT, daT, deT of
                                          P xa (xa. case xT,xaaT,daT,xaT of P )T
                                           | _ (x. dio)E) of
                               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                               | (_, b) dioE of
                            (w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of
     P x (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E,
                                                   xaaaT,case xT,xaaT,daT,deT of
                                             )T | _ (x. dio)E) of
     P xa (xa. case xT,xaaT,daT,xaT of P
                                             (P , P) (w. w = w)P
                                             | (P, F) (w. w = w)F | (P, _) dioE
                                             | (F, P) (w. w = w)F
                                             \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                             | (_, b) dioE of
                                             w)P
                         I F xb
                              (w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of
        P \times (x. case xaT, xaaT, daT, xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaaT,daT,deT of P xa (xa. case xT,xaaT,daT,xaT of P )T
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
```

```
F w)F
                           | _ dioE) of
                  P xb
                    (w. xaaa. case (case case (daT, case xaT, deT, xaaT, xaaaT of
     P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                      daT, case xT, deT, xaaT, xaaaT of
                                                )T | _ (x. dio)E) of
(P, P) (w. w = w)P
     P xa (xa. case xT,xaT,xaaT,xaaaT of P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                           P xb
                                             (w. xaaaa. case case (xaaaaT, case xaT, deT, xaaaT, xaaaT of
                        P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xT,deT,xaaT,xaaaT of
                       P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E) of
        (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
        w)P
                                           l F xb
                                              (w. xaaaa.
case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                    P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xT,deT,xaaT,xaaaT of
                   P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E) of
     (P \ , \ P \ ) \quad (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ \_) \quad dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)F
                                           | _ dioE)
                                       (case case (daT,case xaT,xaaT,deT,xaaaT of
     P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,  daT, case \ xT,xaaT, deT,xaaaT \ of 
     P xa (xa. case xT,xaaT,xaT,xaaaT of P
                                                )T | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                          P xb
                                             (w. xaaaa. case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                        P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xT,xaaT,deT,xaaaT of
                       P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E) of
        (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
                                           l F xb
                                               (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                    P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xT,xaaT,deT,xaaaT of
                    P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E) of
     (P , P) (w. w = w)P | (P , F) (w. w = w)F | (P , _) dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)F
                                          | _ dioE)
                                       (case case (daT,case xaT,xaaT,xaaaT,deT of
     P x (x. case xaT,xaaT,xaaaT,xT of P )T \mid _ (x. dio)E,
                                                      daT, case xT, xaaT, xaaaT, deT of
     P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of (P , P ) (w. w = w)P
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| (P, F) (w. w = w)F | (P, _) dioE
                                          | (F, P) (w. w = w)F
                                          | (F , F ) (w. w = w)F | (F , _) dioE
                                          | (_, b) dioE of
                                     P xb
                                       (w. xaaaa. case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                     P x (x. case xaT, xaaT, xaaT, xT of P )T | _ (x. dio)E,
             xaaaaT,case xT,xaaT,xaaaT,deT of
       | (_, b) dioE of
       w)P
  Р
                                     l F xb
                                         (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                 P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
          xaaaaT,case xT,xaaT,xaaaT,deT of
                 P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of
     (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
    | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
    | (_, b) dioE of
    w)F
                                 | _ dioE) of w)P
                | F xb
                   (w. xaaa. case (case case (daT, case xaT, deT, xaaT, xaaaT of
      P \times (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
 daT,case xT,deT,xaaT,xaaaT of P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
      | _ (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                            | (_, b) dioE of
                                       P xb
                                         (w. xaaaa.
case case (xaaaaT, case xaT, deT, xaaaT, xaaaT of
                  P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
          xaaaaT,case xT,deT,xaaT,xaaaT of
                 P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E) of
    | (_, b) dioE of
    w)P
                                       | F xb
                                          (w. xaaaa.
 case case (xaaaaT, case xaT, deT, xaaT, xaaaT of
                   P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xT,deT,xaaT,xaaaT of
      P \ xa \ (xa. \ case \ xT,xaT,xaaT,xaaaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ dioE
      | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
      | (_, b) dioE of
      w)F
                                       | _ dioE)
                                   (case case (daT,case xaT,xaaT,deT,xaaaT of
      P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
 daT, case xT, xaaT, deT, xaaaT of P xa (xa. case xT, xaaT, xaT, xaaaT of P )T
      | _ (x. dio)E) of
                                            (P, P) (w. w = w)P
                                            | (P , F ) (w. w = w)F | (P , _) dioE
                                            | (F, P) (w. w = w)F
                                            \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                            | (_, b) dioE of
```

P xb

```
case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                      P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xT,xaaT,deT,xaaaT of
      P \ xa \ (xa. \ case \ xT,xaaT,xaT,xaaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)P \ | \ (P \ , F \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ dioE
      | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
      w)P
                                                 | F xb
                                                     (w. xaaaa.
  case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                         P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
               xaaaaT,case xT,xaaT,deT,xaaaT of
        P xa (xa. case xT,xaaT,xaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
        w)F
                                                 | _ dioE)
                                             (case case (daT,case xaT,xaaT,xaaaT,deT of
        P x (x. case xaT,xaaT,xaaT,xT of P )T | _ (x. dio)E,
 daT, case xT, xaaT, xaaaT, deT of P xa (xa. case xT, xaaT, xaaaT, xaT of P
       | _ (x. dio)E) of
                                                       (P, P) (w. w = w)P
                                                       | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                       | (F, F) (w. w = w)F | (F, _) dioE
                                                       | (_, b) dioE of
                                                 P xb
                                                   (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                       P \times (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
             xaaaaT,case xT,xaaT,xaaaT,deT of
     P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
      | (_, b) dioE of
Р
     w)P
                                                 | F xb
                                                      (w. xaaaa.
  case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                        P x (x. case xaT, xaaT, xaaaT, xT of P )T | _ (x. dio)E,
               xaaaaT,case xT,xaaT,xaaaT,deT of
         P \ xa \ (xa. \ case \ xT, xaaT, xaaaT, xaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)P \ | \ (P \ , F \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ \ dioE 
        | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
        w)F
                                         | _ dioE) of
w)F
                    | _ dioE of
                    w)P
                                                           | F xb
   (w. xaa. case case (case case (daT,case xaT,deT,xaaT,daT of
                                                   P x (x. case xaT,xT,xaaT,daT of P )T
                                                    | _ (x. dio)E,
                                              daT, case xT, deT, xaaT, daT of
                                                    P xa (xa. case xT,xaT,xaaT,daT of P )T
                                                     | _ (x. dio)E) of
                                       (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                       | (P , _) dioE | (F , P ) (w. w = w)F
                                       \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                       | (_, b) dioE of
                                 P xb
```

(w. xaaa. case case (xaaaT, case xaT, deT, xaaT, daT of

```
P x (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,xaaT,daT of P xa (xa. case xT,xaT,xaaT,daT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                               | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                          Р
                                                w)P
                            | F xb
                               (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
          P x (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
  xaaaT,case xT,deT,xaaT,daT of P xa (xa. case xT,xaT,xaaT,daT of P )T
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                 | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                            | dioE)
                        (case case (daT,case xaT,xaaT,deT,daT of
                                             P x (x. case xaT,xaaT,xT,daT of P )T | _ (x. dio)E,
                                       daT,case xT,xaaT,deT,daT of
                                             P xa (xa. case xT,xaaT,xaT,daT of P )T
                                             | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT,case xaT,xaaT,deT,daT of
        P x (x. case xaT,xaaT,xT,daT of P )T | _ (x. dio)E,
xaaaT,case xT,xaaT,deT,daT of P xa (xa. case xT,xaaT,xaT,daT of P
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                               w)P
                            I F xb
                                (w. xaaa. case case (xaaaT,case xaT,xaaT,deT,daT of
          P \times (x. case xaT, xaaT, xT, daT of P)T | _ (x. dio)E,
  xaaaT,case xT,xaaT,deT,daT of P xa (xa. case xT,xaaT,xaT,daT of P )T
          | _ (x. dio)E) of
                                                  | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                                 w)F
                           | _ dioE)
                        (case case (daT,case xaT,xaaT,daT,deT of
                                             P x (x. case xaT,xaaT,daT,xT of P )T
                                             | _ (x. dio)E,
                                       daT, case xT, xaaT, daT, deT of
                                             P xa (xa. case xT,xaaT,daT,xaT of P )T
                                              | _ (x. dio)E) of
                                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                 \mid (P , _) dioE \mid (F , P ) (w. w = w)F
                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT, case xaT, xaaT, daT, deT of
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P x (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaaT,daT,deT of P xa (xa. case xT,xaaT,daT,xaT of P )T
         | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                               \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F, F) (w. w = w)F | (F, F) dioE
                                               | (_, b) dioE of
                                          Р
                                               w)P
                            | F xb
                               (w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of
           P \times (x. case xaT, xaaT, daT, xT of P) T | _ (x. dio)E,
   xaaaT,case xT,xaaT,daT,deT of P xa (xa. case xT,xaaT,daT,xaT of P )T
           | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                 | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                 | (_, b) dioE of
                                                 w)F
                            | _ dioE) of
                   P vh
                     (w. xaaa. case (case case (daT, case xaT, deT, xaaT, xaaaT of
       P \times (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
 daT, case xT, deT, xaaT, xaaaT of P xa (xa. case xT, xaT, xaaT, xaaaT of P )T
      | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P, F) (w. w = w)F | (P, _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                          P xb
                                            (w. xaaaa.
case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                   P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xT,deT,xaaT,xaaaT of
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
    | (_, b)  dioE of
    w)P
                                          | F xb
                                              (w. xaaaa.
 case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                      P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xT,deT,xaaT,xaaaT of
       P xa (xa. case xT,xaT,xaaT,xaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       \mid (_, b) dioE of
      w)F
 F
                                          | _ dioE)
                                      (case case (daT,case xaT,xaaT,deT,xaaaT of
      P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
 daT,case xT,xaaT,deT,xaaaT of P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
      | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                               | (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                          P xb
                                            (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                   P x (x. case xaT,xaaT,xT,xaaaT of P )T \mid _ (x. dio)E,
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xaaaaT,case xT,xaaT,deT,xaaaT of

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 P \ xa \ (xa. \ case \ xT,xaaT,xaT,xaaT \ of \ P \ )T \ | \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ dioE 
     | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
     | (_, b) dioE of
    w)P
                                           l F xb
                                              (w. xaaaa.
  case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                      P x (x. case xaT, xaaT, xT, xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xT,xaaT,deT,xaaaT of
                      P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E) of
       (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
      w)F
                                          | _ dioE)
                                      (case case (daT, case xaT, xaaaT, xaaaT, deT of
      P \times (x. case xaT, xaaT, xaaaT, xT of P)T | _ (x. dio)E,
 daT,case xT,xaaT,xaaaT,deT of P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
       | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                           P xb
                                             (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                   P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
           xaaaaT,case xT,xaaT,xaaaT,deT of
                  P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of
     (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
     | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
    | (_, b) dioE of
    w)P
                                           | F xb
                                              (w. xaaaa.
  case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                      P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
             xaaaaT,case xT,xaaT,xaaaT,deT of
                     P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of
       | (_, b) dioE of
      w)F
                                         | _ dioE) of
                                      w)P
                   | F xb
                       (w. xaaa. case (case case (daT,case xaT,deT,xaaT,xaaaT of
         P \times (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
   daT,case xT,deT,xaaT,xaaaT of P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
         | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, _) dioE | (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                             P xb
                                               (w. xaaaa.
  case case (xaaaaT, case xaT, deT, xaaaT, xaaaT of
                     P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xT,deT,xaaT,xaaaT of
                     P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E) of
       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
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Ρ
      w)P
                                           | F xb
                                              (w.
xaaaa. case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                          P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
                  xaaaaT,case xT,deT,xaaT,xaaaT of
                           P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
                          | _ (x. dio)E) of
             (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
            | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
            | (_, b) dioE of
            w)F
                                          | _ dioE)
                                       (case case (daT, case xaT, xaaT, deT, xaaaT of
        P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
   daT,case xT,xaaT,deT,xaaaT of P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                               | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                          P xb
                                            (w. xaaaa.
  case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                    P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,deT,xaaaT of
                    P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E) of
       | (_, b) dioE of
  Р
      w)P
                                           | F xb
                                              (w.
xaaaa. case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                          P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
                  xaaaaT,case xT,xaaT,deT,xaaaT of
                           P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
                           | _ (x. dio)E) of
             (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
            | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
            | (_, b) dioE of
            w)F
                                          | _ dioE)
        (case case (daT,case xaT,xaaT,xaaaT,deT of P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
   daT,case xT,xaaT,xaaaT,deT of P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P, F) (w. w = w)F | (P, _) dioE
                                               | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                          P xb
                                            (w. xaaaa.
  case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                     P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,xaaaT,deT of
       P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of (P,P) (w. w = w)P | (P,F) (w. w = w)F | (P,_) dioE
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
  Р
      w)P
                                           | F xb
                                               (w.
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xaaaa. case case (xaaaaT,case xaT,xaaT,xaaaT,deT of

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P \times (x. case xaT, xaaT, xaaaT, xT of P) T | _ (x. dio)E,
                 xaaaaT,case xT,xaaT,xaaaT,deT of
                          P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
                          | _ (x. dio)E) of
            (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
           | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
           | (_, b) dioE of
           w)F
                               | _ dioE) of F w)F
                 | _ dioE of
                 w)F
                                               | _ dioE) of w)F
                                          F
                                  dioE of
                        Р
                             w)P
         | F x (w. x. case case (case case (daT, case xT, deT, daT, daT of
               P xa (xa. case xT,xaT,daT,daT of P )T \mid _ (x. dio)E,
          daT, case daT, deT, daT, daT of P x (x. case daT, xT, daT, daT of P
                | _ (x. dio)E) of
    (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE | (_, b) dioE of
Рха
  (w. xa. case case (xaT,case xT,deT,daT,daT of
                            P xa (xa. case xT,xaT,daT,daT of P )T | _ (x. dio)E,
                      xaT,case daT,deT,daT,daT of
                           P x (x. case daT,xT,daT,daT of P )T
                | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                | (F , _) dioE | (_, b) dioE of
                w)P
| F xa
    (w. xa. case case (xaT,case xT,deT,daT,daT of
                              P xa (xa. case xT,xaT,daT,daT of P )T
                              | _ (x. dio)E,
                        xaT, case daT, deT, daT, daT of
                              P x (x. case daT,xT,daT,daT of P )T
                              | _ (x. dio)E) of
                  (P, P) (w. w = w)P | (P, F) (w. w = w)F
                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                 w)F
| _ dioE)
                                               (case case (daT,case xT,daT,deT,daT of
                P xa (xa. case xT,daT,xaT,daT of P )T | _ (x. dio)E,
          daT,case daT,daT,deT,daT of P x (x. case daT,daT,xT,daT of P )T
                | _ (x. dio)E) of
     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
     | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
     | (_, b) dioE of
Р ха
  (w. xa. case case (xaT,case xT,daT,deT,daT of
                           P xa (xa. case xT,daT,xaT,daT of P )T | _ (x. dio)E,
                      xaT, case daT, daT, deT, daT of
                            P x (x. case daT,daT,xT,daT of P )T
                | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE

| (F, P) (w. w = w)F | (F, F) (w. w = w)F
                | (F , _) dioE | (_, b) dioE of
                w)P
| F xa
    (w. xa. case case (xaT, case xT, daT, deT, daT of
                              P xa (xa. case xT,daT,xaT,daT of P )T
                              | _ (x. dio)E,
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xaT, case daT, daT, deT, daT of
                              P x (x. case daT,daT,xT,daT of P )T
                               | _ (x. dio)E) of
                   (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                  w)F
| _ dioE)
                                                (case case (daT, case xT, daT, daT, deT of
                P xa (xa. case xT,daT,daT,xaT of P )T | _ (x. dio)E,
           daT,case daT,daT,daT,deT of P x (x. case daT,daT,daT,xT of P
                | _ (x. dio)E) of
     | (_, b) dioE of
Рха
  (w. xa. case case (xaT,case xT,daT,daT,deT of
                           P xa (xa. case xT,daT,daT,xaT of P )T | _ (x. dio)E,
                       xaT,case daT,daT,daT,deT of
                            P x (x. case daT,daT,xT of P )T
                            | _ (x. dio)E) of
                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                 | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
                 w)P
| F xa
    (w. xa. case case (xaT,case xT,daT,daT,deT of
                               P xa (xa. case xT,daT,daT,xaT of P )T
                               | _ (x. dio)E,
                         xaT,case daT,daT,daT,deT of
                              P x (x. case daT,daT,daT,xT of P )T
                               | _ (x. dio)E) of
                   (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                   w)F
| _ dioE) of
                                           P xa
                                             (w. xa.
 case (case case (daT,case xT,deT,daT,xaT of
                          P xb (xaa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
                     daT, case daT, deT, daT, xaT of
                          P x (x. case daT,xT,daT,xaT of P )T | _ (x. dio)E) of
               (P\ ,\ P\ )\quad (\text{w}.\quad \text{w}\ =\ \text{w})P\ |\ (P\ ,\ F\ )\quad (\text{w}.\quad \text{w}\ =\ \text{w})F\ |\ (P\ ,\ \_)\quad \text{dio}E
               | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
               | (_, b) dioE of
            (w. xaa. case case (xaaT,case xT,deT,daT,xaT of
                                         P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                         | _ (x. dio)E,
                                  xaaT,case daT,deT,daT,xaT of
                                         P x (x. case daT,xT,daT,xaT of P )T
                                         | _ (x. dio)E) of
                            (P, P) (w. w = w)P | (P, F) (w. w = w)F
                            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
          | F xb
              (w. xaa. case case (xaaT,case xT,deT,daT,xaT of
                                           P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                           | _ (x. dio)E,
                                    xaaT,case daT,deT,daT,xaT of
                                          P x (x. case daT,xT,daT,xaT of P )T
                                           | _{-} (x. dio)E) of
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| (F, F) (w. w = w)F | (F, _) dioE
                          | (_, b) dioE of
                          w)F
   | _ dioE)
(case case (daT,case xT,daT,deT,xaT of
                      P xb (xaa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
                daT, case daT, daT, deT, xaT of
                      P \times (x. case daT, daT, xT, xaT of P)T \mid (x. dio)E) of
          (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
          | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
         | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case xT,daT,deT,xaT of
                                      P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,daT,deT,xaT of
                                      P x (x. case daT,daT,xT,xaT of P )T
                                      | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                        | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                        w)P
    | F xb
        (w. xaa. case case (xaaT,case xT,daT,deT,xaT of
                                        P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                         | _ (x. dio)E,
                                 xaaT,case daT,daT,deT,xaT of
                                        P x (x. case daT,daT,xT,xaT of P )T
                          | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                          | (_, b) dioE of
                          w)F
   | _ dioE)
(case case (daT,case xT,daT,xaT,deT of
                      P xb (xaa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
                daT,case daT,daT,xaT,deT of
          P x (x. case daT,daT,xaT,xT of P )T | _ (x. dio)E) of (P,P) (w. w = w)P | (P,F) (w. w = w)F | (P,_) dioE
          | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE
         | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT,case xT,daT,xaT,deT of
                                      P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,daT,xaT,deT of
                                      P x (x. case daT,daT,xaT,xT of P )T
                                      | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                        w)P
    | F xb
        (w. xaa. case case (xaaT,case xT,daT,xaT,deT of
                                        P xb (xaa. case xT,daT,xaT,xaaT of P
                                         | _ (x. dio)E,
                                 xaaT,case daT,daT,xaT,deT of
                                        P x (x. case daT,daT,xaT,xT of P )T
                                        | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                          \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                          | (_, b) dioE of
                          w)F
    | _ dioE) of
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```
Ρ
       w)P
                                             | F xa
                                                 (w.
xa. case (case case (daT,case xT,deT,daT,xaT of
                              P xb (xaa. case xT,xaaT,daT,xaT of P )T
                               | _ (x. dio)E,
                         daT, case daT, deT, daT, xaT of
                               P x (x. case daT,xT,daT,xaT of P )T
                                | _{-} (x. dio)E) of
                   (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                   | (F , _) dioE | (_, b) dioE of
              P xb
                (w. xaa. case case (xaaT,case xT,deT,daT,xaT of
                                             P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                              | _ (x. dio)E,
                                       xaaT,case daT,deT,daT,xaT of
                                             P x (x. case daT,xT,daT,xaT of P )T
                                              | _{-} (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                 | (_, b) dioE of
                                w)P
              | F xb
                  (w. xaa. case case (xaaT,case xT,deT,daT,xaT of
                                               P xb (xaa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
                                         xaaT,case daT,deT,daT,xaT of
                                               P x (x. case daT,xT,daT,xaT of P )T
                                               | _ (x. dio)E) of
                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                  | (_, b) dioE of
                                  w)F
              | _ dioE)
          (case case (daT,case xT,daT,deT,xaT of
                               P xb (xaa. case xT,daT,xaaT,xaT of P )T
                               | _ (x. dio)E,
                         daT, case daT, daT, deT, xaT of
                               P x (x. case daT,daT,xT,xaT of P )T
                               | _ (x. dio)E) of
                   (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                   | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                   | (F , _) dioE | (_, b) dioE of
                (w. xaa. case case (xaaT,case xT,daT,deT,xaT of
                                             P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                             | _ (x. dio)E,
                                       xaaT,case daT,daT,deT,xaT of
                                             P x (x. case daT,daT,xT,xaT of P )T
                                             | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                                w)P
              | F xb
                  (w. xaa. case case (xaaT,case xT,daT,deT,xaT of
                                               P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                                | _ (x. dio)E,
                                         xaaT,case daT,daT,deT,xaT of
                                               P x (x. case daT,daT,xT,xaT of P )T
                                               | _ (x. dio)E) of
                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
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| (P, _) dioE | (F, P) (w. w = w)F
                        | (F , F ) (w. w = w)F | (F , _) dioE
                        | (_, b) dioE of
                   F
                        w)F
    | _ dioE)
(case case (daT,case xT,daT,xaT,deT of
                     P xb (xaa. case xT,daT,xaaT,xaaT of P )T
                     | _ (x. dio)E,
               daT, case daT, daT, xaT, deT of
                     P x (x. case daT,daT,xaT,xT of P )T
                     | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F
         | (F , _) dioE | (_, b) dioE of
      (w. xaa. case case (xaaT,case xT,daT,xaT,deT of
                                   P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                   | _ (x. dio)E,
                            xaaT,case daT,daT,xaT,deT of
                                   P x (x. case daT,daT,xaT,xT of P )T
                      | _{-} (x. dio)E) of (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                      | (_, b) dioE of
                      w)P
    | F xb
        (w. xaa. case case (xaaT,case xT,daT,xaT,deT of
                                     P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                      | _ (x. dio)E,
                               xaaT,case daT,daT,xaT,deT of
                                     P x (x. case daT,daT,xaT,xT of P )T
                                     | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                        | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                        | (_, b) dioE of
                        w)F
   | _ dioE) of
                                  | _ dioE of
                             P xa
                               (w. xa. case case (case case (daT,case xT,deT,xaT,daT of
                    P xb (xaa. case xT,xaaT,xaT,daT of P )T
                    | _ (x. dio)E,
              daT,case daT,deT,xaT,daT of
                   P x (x. case daT,xT,xaT,daT of P )T
                    | _ (x. dio)E) of
        (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
        | (F, P) (w. w = w)F | (F, F) (w. w = w)F
        | (F , _) dioE | (_, b) dioE of
  P xb
     (w. xaa. case case (xaaT, case xT, deT, xaT, daT of
                                  P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                   | _ (x. dio)E,
                           xaaT,case daT,deT,xaT,daT of
                                  P x (x. case daT,xT,xaT,daT of P )T
                     | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                     | (_, b) dioE of
                     w)P
  | F xb
       (w. xaa. case case (xaaT,case xT,deT,xaT,daT of
                                     P xb (xaa. case xT,xaaT,xaT,daT of P )T
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| _ (x. dio)E,
                                                                 xaaT,case daT,deT,xaT,daT of
                                                                               P x (x. case daT,xT,xaT,daT of P )T
                                                                               | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, F) (w. w = w)F | (F, F) (w
                                                    | (_, b) dioE of
                                        F
                                                    w)F
       | _ dioE)
(case case (daT,case xT,xaT,deT,daT of
                                            P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                            | _ (x. dio)E,
                                daT, case daT, xaT, deT, daT of
                                            P x (x. case daT,xaT,xT,daT of P )T
                                             | _ (x. dio)E) of
                   (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
                   \mid (F , P ) (w. w = w)F \mid (F , F ) (w. w = w)F
                   \mid (F , _) dioE \mid (_, b) dioE of
       P xb
            (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                                                           P xb (xaa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
                                                            xaaT,case daT,xaT,deT,daT of
                                                                           P x (x. case daT,xaT,xT,daT of P )T
                                                | _ (x. dio)E) of
(P, P) (w. w = w)P | (P, F) (w. w = w)F
                                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                               w)P
       | F xb
                 (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                                                               P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                                                               | _ (x. dio)E,
                                                                 xaaT,case daT,xaT,deT,daT of
                                                                              P x (x. case daT,xaT,xT,daT of P )T
                                                                               | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                                                    \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                   | (_, b) dioE of
                                                   w)F
        | _ dioE)
(case case (daT,case xT,xaT,daT,deT of
                                            P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                            | _ (x. dio)E,
                                daT,case daT,xaT,daT,deT of
                                            P x (x. case daT,xaT,daT,xT of P )T
                                            | _ (x. dio)E) of
                   (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                   | (F , _) dioE | (_, b) dioE of
       P xb
            (w. xaa. case case (xaaT,case xT,xaT,daT,deT of
                                                                          P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                                                            | _ (x. dio)E,
                                                            xaaT,case daT,xaT,daT,deT of
                                                                           P x (x. case daT,xaT,daT,xT of P )T
                                                                           | _ (x. dio)E) of
                                                (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                               | (_, b) dioE of
                                              w)P
        | F xb
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(w. xaa. case case (xaaT,case xT,xaT,daT,deT of
                                              P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                              | _ (x. dio)E,
                                       xaaT,case daT,xaT,daT,deT of
                                             P x (x. case daT,xaT,daT,xT of P )T
                                             | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                | (_, b) dioE of
                                w)F
            | _ dioE) of
  P xb
     (w. xaa. case (case case (daT, case xT, deT, xaaT, xaaT of
                                           P xb (xaaa. case xT,xaaaT,xaaT,xaaT of P )T
                                           | _ (x. dio)E,
                                     daT, case daT, deT, xaT, xaaT of
                                          P x (x. case daT,xT,xaT,xaaT of P )T
                                           | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                         P xb
                            (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
     P \times (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
| (P, F) (w. w = w)F | (P, _) dioE
                                             | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                             | (_, b) dioE of
                                             w)P
                         I F xb
                             (w. xaaa. case case (xaaaT, case xT, deT, xaaT, xaaT of
        P xb (xaaa. case xT,xaaaT,xaaT,xaaT of P \, )T | \, (x. dio)E,
xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P, F) (w. w = w)F | (P, _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                               w)F
                         | _ dioE)
                     (case case (daT, case xT, xaT, deT, xaaT of
                                           P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                           | _ (x. dio)E,
                                     daT, case daT, xaT, deT, xaaT of
                                           P x (x. case daT,xaT,xT,xaaT of P )T
                                           | _ (x. dio)E) of
                               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                              | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                         P xb
                            (w. xaaa. case case (xaaaT, case xT, xaT, deT, xaaT of
      P xb (xaaa. case xT,xaT,xaaaT,xaaT of P
                                                )T | _ (x. dio)E,
                                                  xaaaT,case daT,xaT,deT,xaaT of
                                           )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
     P x (x. case daT,xaT,xT,xaaT of P
                                             \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                             | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                             | (_, b) dioE of
```

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w)P
                        | F xb
                           (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
       P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
       | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
                                             | (F, P) (w. w = w)F
                                             \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                             | (_, b) dioE of
                                             w)F
                        | _ dioE)
                    (case case (daT,case xT,xaT,xaaT,deT of
                                         P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                         | _ (x. dio)E,
                                   daT, case daT, xaT, xaaT, deT of
                                        P x (x. case daT,xaT,xaaT,xT of P )T
                                         | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F
                             | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                             | (_, b) dioE of
                        P xb
                          (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
     P x (x. case daT,xaT,xaaT,xT of P
                                         )T | _ (x. dio)E) of
                                           (P, P) (w. w = w)P
| (P, F) (w. w = w)F | (P, _) dioE
                                           | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                           | (_, b) dioE of
                                           w)P
                        I F xb
                            (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
       P xb (xaaa. case xT,xaT,xaaT,xaaaT of P \, )T | \, (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
       | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                             | (_, b) dioE of
                                            w)F
                       | _ dioE) of
                    w)P
  | F xb
       (w. xaa. case (case case (daT,case xT,deT,xaT,xaaT of
                                          P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                           | _ (x. dio)E,
                                     daT, case daT, deT, xaT, xaaT of
                                          P x (x. case daT,xT,xaT,xaaT of P )T
                                           | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                               | (_, b) dioE of
                            (w. xaaa. case case (xaaaT, case xT, deT, xaaT, xaaT of
       P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
       | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
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| (F, F) (w. w = w)F | (F, _) dioE
                                             | (_, b) dioE of
                                             w)P
                           | F xb
                              (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
         P xb (xaaa. case xT,xaaaT,xaaT,xaaT of P )T | \_ (x. dio)E,
 xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
         | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                | (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                                w)F
                          | _ dioE)
                       (case case (daT, case xT, xaT, deT, xaaT of
                                           P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                           | _ (x. dio)E,
                                      daT, case daT, xaT, deT, xaaT of
                                           P x (x. case daT,xaT,xT,xaaT of P )T
                                           | _ (x. dio)E) of
                                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                             (w. xaaa. case case (xaaaT, case xT, xaT, deT, xaaT of
       P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
       | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                              | (F , F ) (w. w = w)F | (F , _) dioE
                                             | (_, b) dioE of
                                              w)P
                           | F xb
                               (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
         P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | \_ (x. dio)E,
 xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
         | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                               | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
                                                | (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                                w)F
                          | _ dioE)
                       (case case (daT,case xT,xaT,xaaT,deT of
                                           P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                           | _ (x. dio)E,
                                      daT, case daT, xaT, xaaT, deT of
                                           P x (x. case daT,xaT,xaaT,xT of P )T
                                           | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                | (_, b) dioE of
                             (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
       P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
       | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
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| (F, F) (w. w = w)F | (F, _) dioE
                                            | (_, b) dioE of
                                            w)P
                         | F xb
                            (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
        P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
       (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                              | (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                                              w)F
                        | _ dioE) of
                F w)F
 | _ dioE of
                                                    w)P
                                    | F xa
                                        (w. xa. case case (daT,case xT,deT,xaT,daT of
                             P xb (xaa. case xT,xaaT,xaT,daT of P )T
                             | _ (x. dio)E,
                       daT, case daT, deT, xaT, daT of
                             P x (x. case daT,xT,xaT,daT of P )T
                             | _{-} (x. dio)E) of
                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                 | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
           P xb
              (w. xaa. case case (xaaT,case xT,deT,xaT,daT of
                                          P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                           | _ (x. dio)E,
                                    xaaT,case daT,deT,xaT,daT of
                                           P x (x. case daT,xT,xaT,daT of P )T
                                           | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                              w)P
            | F xb
                (w. xaa. case case (xaaT, case xT, deT, xaT, daT of
                                            P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                             | _ (x. dio)E,
                                      xaaT,case daT,deT,xaT,daT of
                                             P x (x. case daT,xT,xaT,daT of P )T
                                             | _ (x. dio)E) of
                                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                | (_, b) dioE of
                                w)F
           | _ dioE)
        (case case (daT,case xT,xaT,deT,daT of
                             P xb (xaa. case xT,xaT,xaaT,daT of P )T
                             | _ (x. dio)E,
                       daT, case daT, xaT, deT, daT of
                             P x (x. case daT,xaT,xT,daT of P )T
                             | _ (x. dio)E) of
                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
              (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                           P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                           | _ (x. dio)E,
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xaaT,case daT,xaT,deT,daT of
                                         P x (x. case daT,xaT,xT,daT of P )T
                                          | _ (x. dio)E) of
                            (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                            | (P , _) dioE | (F , P ) (w. w = w)F
                            \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                            | (_, b) dioE of
                            w)P
         | F xb
             (w. xaa. case case (xaaT,case xT,xaT,deT,daT of
                                           P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                            | _ (x. dio)E,
                                     xaaT,case daT,xaT,deT,daT of
                                           P x (x. case daT,xaT,xT,daT of P )T
                                            | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                              | (_, b) dioE of
                              w)F
         | dioE)
     (case case (daT,case xT,xaT,daT,deT of
                           P xb (xaa. case xT,xaT,daT,xaaT of P )T
                           | _ (x. dio)E,
                     daT, case daT, xaT, daT, deT of
                           P x (x. case daT,xaT,daT,xT of P )T
                           | _ (x. dio)E) of
               (P, P) (w. w = w)P | (P, F) (w. w = w)F
              | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
           (w. xaa. case case (xaaT,case xT,xaT,daT,deT of
                                          P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                         | _ (x. dio)E,
                                  xaaT,case daT,xaT,daT,deT of
                                         P x (x. case daT,xaT,daT,xT of P )T
                                         | _ (x. dio)E) of
                            (P, P) (w. w = w)P | (P, F) (w. w = w)F
                            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                            | (_, b) dioE of
                            w)P
         | F xb
             (w. xaa. case case (xaaT,case xT,xaT,daT,deT of
                                           P xb (xaa. case xT,xaT,daT,xaaT of P )T | _ (x. dio)E,
                                     xaaT,case daT,xaT,daT,deT of
                                           P x (x. case daT,xaT,daT,xT of P )T
                                           | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                              | (_, b) dioE of
                              w)F
         | _ dioE) of
P xb
  (w. xaa. case (case case (daT,case xT,deT,xaT,xaaT of
                                        P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | _ (x. dio)E,
                                   daT,case daT,deT,xaT,xaaT of
                                        P x (x. case daT,xT,xaT,xaaT of P )T
                                        | _ (x. dio)E) of
                            (P, P) (w. w = w)P | (P, F) (w. w = w)F
                            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                            | (_, b) dioE of
```

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P xb
                             (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
       P xb (xaaa. case xT,xaaaT,xaaT of P )T | \_ (x. dio)E,
xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
       | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                              | (_, b) dioE of
                                              w)P
                           | F xb
         (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaaT of P ) T | _ (x. dio)E,
 xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
         | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                           | _ dioE)
                       (case case (daT,case xT,xaT,deT,xaaT of
                                            P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                            | _ (x. dio)E,
                                      daT,case daT,xaT,deT,xaaT of
                                            P x (x. case daT,xaT,xT,xaaT of P )T
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
                             (w. xaaa. case case (xaaaT, case xT, xaT, deT, xaaT of
       P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
       | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
                                              | (F, P) (w. w = w)F
                                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                              | (_, b) dioE of
                                         Р
                                              w)P
                           | F xb
                               (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
          P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T \mid (x. dio)E,
 xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
         | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                           | _ dioE)
                       (case case (daT,case xT,xaT,xaaT,deT of
                                            P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                            | _ (x. dio)E,
                                       daT,case daT,xaT,xaaT,deT of
                                            P \times (x. case daT,xaT,xaaT,xT of P)T
                                            |  (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
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| (\_, b) dioE of

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P xb
                               (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
        P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)P
                             | F xb
          (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P \, )T | _ (x. dio)E,
  xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                   | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                                   w)F
                            | _ dioE) of
     | F xb
         (w. xaa. case (case case (daT, case xT, deT, xaT, xaaT of
                                                 P xb
                                                  (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                                 | _ (x. dio)E,
                                           daT, case daT, deT, xaT, xaaT of
                                                 P x (x. case daT,xT,xaT,xaaT of P )T
                                                 | _ (x. dio)E) of
                                    (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                    | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                    | (_, b) dioE of
                               P xb
                                 (w. xaaa. case case (xaaaT,case xT,deT,xaT,xaaT of
          P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | \_ (x. dio)E,
  xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
                                                   | (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                                   w)P
                               | F xb
                                   (w. xaaa. case case (xaaaT, case xT, deT, xaT, xaaT of
            P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T | \_ (x. dio)E,
    xaaaT,case daT,deT,xaT,xaaT of P x (x. case daT,xT,xaT,xaaT of P )T
            | _{-} (x. dio)E) of
                                                      (P, P) (w. w = w)P
                                                     | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, _) dioE | (F, F) (w. w = w)F | (F, _) dioE
                                                     | (_, b) dioE of
                                                     w)F
                               l dioE)
                           (case case (daT,case xT,xaT,deT,xaaT of
                                                 P xb
                                                   (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                                 | _ (x. dio)E,
                                           daT, case daT, xaT, deT, xaaT of
                                                 P x (x. case daT,xaT,xT,xaaT of P )T
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| \_ (x. dio)E) of

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(P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                 | (_, b) dioE of
                           P xb
                              (w. xaaa. case case (xaaaT,case xT,xaT,deT,xaaT of
        P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
                                               | (F, P) (w. w = w)F
                                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                               | (_, b) dioE of
                                               w)P
                           | F xb
                                (w. xaaa. case case (xaaaT, case xT, xaT, deT, xaaT of
          P xb (xaaa. case xT,xaT,xaaaT,xaaT of P \, )T | \, (x. dio)E,
  xaaaT,case daT,xaT,deT,xaaT of P x (x. case daT,xaT,xT,xaaT of P )T
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                 | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                                 w)F
                           | _ dioE)
                        (case case (daT,case xT,xaT,xaaT,deT of
                                             P xb
                                               (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                             | _ (x. dio)E,
                                       daT, case daT, xaT, xaaT, deT of
                                             P x (x. case daT,xaT,xaaT,xT of P )T
                                             | _ (x. dio)E) of
                                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                              (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
       P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                               | (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                               w)P
                                (w. xaaa. case case (xaaaT,case xT,xaT,xaaT,deT of
          P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
  xaaaT,case daT,xaT,xaaT,deT of P x (x. case daT,xaT,xaaT,xT of P )T
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
| (_, b) dioE of
                                            F
                                                 w)F
                  | _ dioE of
                                     | _ dioE)
```

(case case (case case (daT, case daT, deT, daT, daT of

```
P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E,
           daT,case xT,deT,daT,daT of P xa (xa. case xT,xaT,daT,daT of P )T
                | _ (x. dio)E) of
     (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
     |\ (F\ ,\ P\ )\ (w.\ w\ =\ w)F\ |\ (F\ ,\ F\ )\ (w.\ w\ =\ w)F\ |\ (F\ ,\ \_)\ dioE
     | (_, b) dioE of
P xa
  (w. xa. case case (xaT, case daT, deT, daT, daT of
                            P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E,
                       xaT,case xT,deT,daT,daT of
                            P xa (xa. case xT,xaT,daT,daT of P )T
                            | _ (x. dio)E) of
                \mid (F , _) dioE \mid (_, b) dioE of
                w)P
| F xa
    (w. xa. case case (xaT, case daT, deT, daT, daT of
                              P x (x. case daT,xT,daT,daT of P )T | _ (x. dio)E,
                        xaT,case xT,deT,daT,daT of
                              P xa (xa. case xT,xaT,daT,daT of P )T
                              | _ (x. dio)E) of
                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                  | (P , _) dioE | (F , P ) (w. w = w)F
                  \mid (F , F ) (w. w = w)F \mid (F , _) dioE \mid (_, b) dioE of
                  w)F
| _ dioE)
                                               (case case (daT,case daT,daT,deT,daT of
                P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E,
           daT, case xT, daT, deT, daT of P xa (xa. case xT, daT, xaT, daT of P
                | _{-} (x. dio)E) of
     (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
     | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE
     | (_, b) dioE of
P xa
  (w. xa. case case (xaT, case daT, daT, deT, daT of
                           P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E,
                      xaT,case xT,daT,deT,daT of
                            P xa (xa. case xT,daT,xaT,daT of P )T
                            | _ (x. dio)E) of
                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
                w)P
| F xa
    (w. xa. case case (xaT, case daT, daT, deT, daT of
                              P x (x. case daT,daT,xT,daT of P )T | _ (x. dio)E,
                        xaT, case xT, daT, deT, daT of
                              P xa (xa. case xT,daT,xaT,daT of P )T
                              | _ (x. dio)E) of
                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                  w)F
| _ dioE)
                                               (case case (daT,case daT,daT,daT,deT of
                P \times (x. case daT, daT, xT of P) T | (x. dio)E,
           daT, case xT, daT, daT, deT of P xa (xa. case xT, daT, daT, xaT of P )T
                | _ (x. dio)E) of
     (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
     | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
     | (_, b) dioE of
  (w. xa. case case (xaT, case daT, daT, daT, deT of
                            P x (x. case daT,daT,xT of P )T | _ (x. dio)E,
                      xaT,case xT,daT,daT,deT of
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P xa (xa. case xT,daT,daT,xaT of P )T
                               | _ (x. dio)E) of
                  (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
                   | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \\ | \ (F \ , \ \_) \ \ dioE \ | \ (\_, \ b) \ \ dioE \ of 
                  w)P
| F xa
    (w. xa. case case (xaT, case daT, daT, daT, deT of
                                P x (x. case daT,daT,xT of P )T | _ (x. dio)E,
                           xaT,case xT,daT,daT,deT of
                                 P xa (xa. case xT,daT,daT,xaT of P )T
                                 | _ (x. dio)E) of
                    (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                    w)F
| _ dioE) of
                                              Р ха
                                                (w. xa.
case (case case (daT,case daT,deT,daT,xaT of
                            P x (x. case daT,xT,daT,xaT of P )T | _ (x. dio)E,
                      daT, case xT, deT, daT, xaT of
                            P xb (xaa. case xT,xaaT,daT,xaT of P )T
                            | _ (x. dio)E) of
                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
                | (_, b) dioE of
          P xb
            (w. xaa. case case (xaaT, case daT, deT, daT, xaT of
                                           P x (x. case daT,xT,daT,xaT of P )T
                                            | _ (x. dio)E,
                                    xaaT,case xT,deT,daT,xaT of
                                            P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                            | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
          | F xb
              (w. xaa. case case (xaaT,case daT,deT,daT,xaT of
                                              P x (x. case daT,xT,daT,xaT of P )T
                                              | _ (x. dio)E,
                                      xaaT,case xT,deT,daT,xaT of
                                              P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                | _{-} (x. dio)E) of (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
                                | (F, F) (w. w = w)F | (F, _) dioE
                                | (_, b) dioE of
                                w)F
          | _ dioE)
      (case case (daT,case daT,daT,deT,xaT of
                            P x (x. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
                      daT, case xT, daT, deT, xaT of
                             P xb (xaa. case xT,daT,xaaT,xaT of P )T
                             | _ (x. dio)E) of
                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
                | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
                | (_, b) dioE of
          P xb
            (w. xaa. case case (xaaT, case daT, daT, deT, xaT of
                                           P x (x. case daT,daT,xT,xaT of P )T
                                            | _ (x. dio)E,
                                    xaaT,case xT,daT,deT,xaT of
                                            P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                            | _ (x. dio)E) of
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(P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                               w)P
            | F xb
                (w. xaa. case case (xaaT,case daT,daT,deT,xaT of
                                               P x (x. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
                                        xaaT,case xT,daT,deT,xaT of
                                               P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                               | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                                 w)F
            | _ dioE)
       (case case (daT,case daT,daT,xaT,deT of
                             P x (x. case daT,daT,xaT,xT of P )T | _ (x. dio)E,
                        daT, case xT, daT, xaT, deT of
                              P xb (xaa. case xT,daT,xaT,xaaT of P )T
                              | _ (x. dio)E) of
                 (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, _) dioE
                 | (_, b) dioE of
            P xb
              (w. xaa. case case (xaaT,case daT,daT,xaT,deT of
                                             P x (x. case daT,daT,xaT,xT of P )T
                                             | _ (x. dio)E,
                                     xaaT,case xT,daT,xaT,deT of
                                            P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                             | _ (x. dio)E) of
                               (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | (P, _{)} dioE | (F, _{)} (w. w = w)F
                               | (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                               w)P
            | F xb
                (w. xaa. case case (xaaT,case daT,daT,xaT,deT of
                                               P x (x. case daT, xaT, xT of P )T | _ (x. dio)E,
                                        xaaT,case xT,daT,xaT,deT of
                                               P xb (xaa. case xT,daT,xaT,xaaT of P )T
                                               | _ (x. dio)E) of
                                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                                 w)F
           | _ dioE) of
                                               | F xa
xa. case (case case (daT,case daT,deT,daT,xaT of
                                P x (x. case daT,xT,daT,xaT of P )T | _ (x. dio)E,
                           daT,case xT,deT,daT,xaT of
                                 P xb (xaa. case xT,xaaT,daT,xaT of P )T
                                 | _ (x. dio)E) of
                    (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F
                    \mid (F , _) dioE \mid (_, b) dioE of
               P xb
                 (w. xaa. case case (xaaT,case daT,deT,daT,xaT of
                                               P x (x. case daT,xT,daT,xaT of P )T
                                                | _ (x. dio)E,
                                         xaaT,case xT,deT,daT,xaT of
                                                P xb (xaa. case xT,xaaT,daT,xaT of P )T
```

```
| _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                        | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                        | (_, b) dioE of
                        w)P
    | F xb
        (w. xaa. case case (xaaT, case daT, deT, daT, xaT of
                                        P x (x. case daT,xT,daT,xaT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case xT,deT,daT,xaT of
                                        P xb (xaa. case xT,xaaT,daT,xaT of P )T
                          | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                          | (_, b) dioE of
    | _ dioE)
(case case (daT,case daT,daT,deT,xaT of
                      P x (x. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
                daT, case xT, daT, deT, xaT of
                      P xb (xaa. case xT,daT,xaaT,xaT of P )T
                       | _ (x. dio)E) of
          (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , \_) dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_, b) dioE of
    P xb
      (w. xaa. case case (xaaT, case daT, daT, deT, xaT of
                                     P x (x. case daT,daT,xT,xaT of P )T
                                      | _ (x. dio)E,
                              xaaT,case xT,daT,deT,xaT of
                                     P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                     | _ (x. dio)E) of
                        (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                        | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                        | (_, b) dioE of
                        w)P
    | F xb
        (w. xaa. case case (xaaT,case daT,daT,deT,xaT of
                                        P x (x. case daT,daT,xT,xaT of P )T | _ (x. dio)E,
                                 xaaT,case xT,daT,deT,xaT of
                                        P xb (xaa. case xT,daT,xaaT,xaT of P )T
                                        | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F
                          | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                          | (_, b) dioE of
                          w)F
    | _ dioE)
(case case (daT,case daT,daT,xaT,deT of
                      P x (x. case daT,daT,xaT,xT of P )T | _ (x. dio)E,
                daT,case xT,daT,xaT,deT of
                      P xb (xaa. case xT,daT,xaT,xaaT of P )T
                       | _ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F
         \mid (F , _) dioE \mid (_, b) dioE of
      (w. xaa. case case (xaaT,case daT,daT,xaT,deT of
                                     P x (x. case daT,daT,xaT,xT of P )T
                                      | _ (x. dio)E,
                              xaaT,case xT,daT,xaT,deT of
                                      P xb (xaa. case xT,daT,xaT,xaaT of P )T
```

```
| _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                        | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                        | (_, b) dioE of
                  Þ
                        w)P
     | F xb
         (w. xaa. case case (xaaT, case daT, daT, xaT, deT of
                                        P x (x. case daT,daT,xaT,xT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case xT,daT,xaT,deT of
                                       P xb (xaa. case xT,daT,xaT,xaaT of P )T
                          | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                          | (_, b) dioE of
                          w)F
    | _ dioE) of
                                    | _ dioE of
                               P xa
                                 (w. xa. case case (case case (daT, case daT, deT, xaT, daT of
                      P \times (x. case daT,xT,xaT,daT of P)T | _ (x. dio)E,
               daT, case xT, deT, xaT, daT of
                     P xb (xaa. case xT,xaaT,xaT,daT of P )T
                      | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
         | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
      (w. xaa. case case (xaaT,case daT,deT,xaT,daT of
                                    P x (x. case daT,xT,xaT,daT of P )T
                                    | _ (x. dio)E,
                             xaaT, case xT, deT, xaT, daT of
                                    P xb (xaa. case xT,xaaT,xaT,daT of P )T
                       | _{-} (x. dio)E) of (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                       | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                       | (_, b) dioE of
                      w)P
   | F xb
        (w. xaa. case case (xaaT,case daT,deT,xaT,daT of
                                      P x (x. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
                               xaaT,case xT,deT,xaT,daT of
                                      P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                      | _ (x. dio)E) of
                         (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                         | (_, b) dioE of
                   F
                         w)F
   | _ dioE)
(case case (daT,case daT,xaT,deT,daT of
                     P x (x. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
               daT, case xT, xaT, deT, daT of
                     P xb (xaa. case xT,xaT,xaaT,daT of P )T
                      | _ (x. dio)E) of
         \mid (F , _) dioE \mid (_, b) dioE of
      (w. xaa. case case (xaaT,case daT,xaT,deT,daT of
                                    P x (x. case daT,xaT,xT,daT of P )T
```

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| _ (x. dio)E,
                                    xaaT,case xT,xaT,deT,daT of
                                           P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                           | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                             | (_, b) dioE of
                             w)P
         | F xb
              (w. xaa. case case (xaaT,case daT,xaT,deT,daT of
                                             P x (x. case daT,xaT,xT,daT of P )T
                                              | _ (x. dio)E,
                                      xaaT,case xT,xaT,deT,daT of
                                             P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                              | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
                          F
                               w)F
         | _ dioE)
     (case case (daT,case daT,xaT,daT,deT of
                            P x (x. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
                      daT,case xT,xaT,daT,deT of
                            P xb (xaa. case xT,xaT,daT,xaaT of P )T
                            | _ (x. dio)E) of
               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
               | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
            (w. xaa. case case (xaaT,case daT,xaT,daT,deT of
                                            P x (x. case daT,xaT,daT,xT of P )T
                                           | _ (x. dio)E,
                                    xaaT, case xT, xaT, daT, deT of
                                            P xb (xaa. case xT,xaT,daT,xaaT of P )T
                             | _{-} (x. dio)E) of (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                             | (_, b) dioE of
                             w)P
         | F xb
              (w. xaa. case case (xaaT,case daT,xaT,daT,deT of
                                             P x (x. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
                                      xaaT,case xT,xaT,daT,deT of
                                              P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                             | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                               | (_, b) dioE of
                               w)F
         | _ dioE) of
P xb
  (w. xaa. case (case case (daT,case daT,deT,xaT,xaaT of
                                          P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
                                    daT, case xT, deT, xaT, xaaT of
                                          P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                          | _ (x. dio)E) of
                              (P, P) (w. w = w)P | (P, F) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                              | (_, b) dioE of
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```
P xb
                             (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
      P x (x. case daT,xT,xaT,xaaT of P )T | \_ (x. dio)E,
                                                     xaaaT,case xT,deT,xaT,xaaT of
      P xb (xaaa. case xT,xaaaT,xaT,xaaT of P \, )T | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                               | (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                               w)P
                           | F xb
                               (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of
        P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                 | (_, b)  dioE of
                                                 w)F
                          | _ dioE)
                      (case case (daT,case daT,xaT,deT,xaaT of
                                             P \times (x. case daT,xaT,xT,xaaT of P)T
                                             | _ (x. dio)E,
                                      daT,case xT,xaT,deT,xaaT of
                                             P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                                | (_, b) dioE of
                            (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
      P x (x. case daT,xaT,xaaT of P )T | _ (x. dio)E,
                                                     xaaaT,case xT,xaT,deT,xaaT of
      P xb (xaaa. case xT,xaT,xaaaT,xaaT of P \, )T | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F, P) (w. w = w)F
                                               | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
                                               | (_, b) dioE of
                                         Ρ
                                               w)P
                           | F xb
                               (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
        P \times (x. case daT,xaT,xT,xaaT of P) T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P)T
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)F
                          | _ dioE)
                      (case case (daT,case daT,xaT,xaaT,deT of
                                            P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
                                       daT, case xT, xaT, xaaT, deT of
                                            P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                             | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
```

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P xb
                            (w. xaaa. case case (xaaaT, case daT, xaT, xaaT, deT of
      P x (x. case daT,xaT,xaaT,xT of P )T | \_ (x. dio)E,
                                                    xaaaT,case xT,xaT,xaaT,deT of
      P xb (xaaa. case xT,xaT,xaaT,xaaaT of P \, )T | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                               | (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                                         Р
                                              w)P
                          | F xb
                              (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
        P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                 w)F
                         | _ dioE) of
   | F xb
       (w. xaa. case (case case (daT, case daT, deT, xaT, xaaT of
                                              P \times (x. case daT,xT,xaT,xaaT of P)T
                                              | _ (x. dio)E,
                                        daT,case xT,deT,xaT,xaaT of
                                              P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                              | _ (x. dio)E) of
                                  (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                  \label{eq:continuous} | \ (P \ , \ \_) \quad \mbox{dioE} \ | \ (F \ , \ P \ ) \quad (w. \quad w \ = \ w)F
                                  \mid \ (\texttt{F} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \quad \texttt{w} \ \texttt{=} \ \ \texttt{w}) \texttt{F} \ \mid \ (\texttt{F} \ , \ \_) \quad \texttt{dioE}
                                  | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of
        P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                                w)P
                            | F xb
                               (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of
          P \times (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                   | (F, P) (w. w = w)F
                                                   \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                   | (_, b) dioE of
                                             F
                                                  w)F
                            | _ dioE)
                        (case case (daT,case daT,xaT,deT,xaaT of
                                              P \times (x. case daT,xaT,xT,xaaT of P)T
                                              | _ (x. dio)E,
                                        daT,case xT,xaT,deT,xaaT of
                                              P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                  | (P, _) dioE | (F, P) (w. w = w)F
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| (F, F) (w. w = w)F | (F, _) dioE
                                  | (_, b) dioE of
                             P xb
                               (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
        P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
        | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)P
                             I F xb
                                 (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
          P \times (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P
          | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P, F) (w. w = w)F | (P, _) dioE
                                                    | (F, P) (w. w = w)F
                                                    | (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b) dioE of
                                                    w)F
                             | _ dioE)
                         (case case (daT,case daT,xaT,xaaT,deT of
                                               P x (x. case daT,xaT,xaaT,xT of P )T
                                               | _ (x. dio)E,
                                         daT, case xT, xaT, xaaT, deT of
                                               P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                               | _ (x. dio)E) of
                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                   \label{eq:continuous} | \ (P \ , \ \_) \quad \mbox{dioE} \ | \ (F \ , \ P \ ) \quad (w. \quad w \ = \ w)F
                                  \mid \ (\texttt{F} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \quad \texttt{w} \ \texttt{=} \ \ \texttt{w}) \texttt{F} \ \mid \ (\texttt{F} \ , \ \_) \quad \texttt{dioE}
                                  | (_, b) dioE of
                             P xb
                               (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
        P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
        | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                  | (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                                  w)P
                             | F xb
                                (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
          P \times (x. case daT,xaT,xaaT,xT of P)T | _ (x. dio)E,
  xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
          | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b) dioE of
                      | _ dioE) of w)F
                                              F
                                                    w)F
   | _ dioE of
                                                      Р
                                                           w)P
                                         | F xa
                                            (w. xa. case case (case case (daT,case daT,deT,xaT,daT of
                                 P \times (x. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
                           daT,case xT,deT,xaT,daT of
                                 P xb (xaa. case xT,xaaT,xaT,daT of P )T
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```
| _ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT, case daT, deT, xaT, daT of
                                     P x (x. case daT,xT,xaT,daT of P )T | _ (x. dio)E,
                              xaaT,case xT,deT,xaT,daT of
                                     P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                     | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                       | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                       | (_, b) dioE of
                       w)P
    | F xb
        (w. xaa. case case (xaaT,case daT,deT,xaT,daT of
                                       P x (x. case daT,xT,xaT,daT of P)T
                                        | _ (x. dio)E,
                                xaaT,case xT,deT,xaT,daT of
                                       P xb (xaa. case xT,xaaT,xaT,daT of P )T
                                       | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                         | (_, b) dioE of
                         w)F
   | _ dioE)
(case case (daT,case daT,xaT,deT,daT of
                      P x (x. case daT,xaT,xT,daT of P )T | _ (x. dio)E,
                daT,case xT,xaT,deT,daT of
                      P xb (xaa. case xT,xaT,xaaT,daT of P )T
                      | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
         | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT, case daT, xaT, deT, daT of
                                     P x (x. case daT,xaT,xT,daT of P )T
                                     | _ (x. dio)E,
                              xaaT,case xT,xaT,deT,daT of
                                     P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                     | _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                        \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                       | (_, b) dioE of
                       w)P
        (w. xaa. case case (xaaT,case daT,xaT,deT,daT of
                                        P \times (x. case daT,xaT,xT,daT of P)T
                                        | _ (x. dio)E,
                                xaaT,case xT,xaT,deT,daT of
                                       P xb (xaa. case xT,xaT,xaaT,daT of P )T
                                       | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                         | (_, b) dioE of
                         w)F
   | dioE)
(case case (daT,case daT,xaT,daT,deT of
                      P x (x. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
                daT,case xT,xaT,daT,deT of
                      P xb (xaa. case xT,xaT,daT,xaaT of P )T
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| _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
               P xb
                 (w. xaa. case case (xaaT, case daT, xaT, daT, deT of
                                                 P x (x. case daT,xaT,daT,xT of P )T | _ (x. dio)E,
                                          xaaT,case xT,xaT,daT,deT of
                                                 P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                                 | _ (x. dio)E) of
                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                   | (_, b) dioE of
                                   w)P
               | F xb
                   (w. xaa. case case (xaaT,case daT,xaT,daT,deT of
                                                   P x (x. case daT,xaT,daT,xT of P )T
                                                    | _ (x. dio)E,
                                            xaaT,case xT,xaT,daT,deT of
                                                   P xb (xaa. case xT,xaT,daT,xaaT of P )T
                                                   | _ (x. dio)E) of
                                      (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                     | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                     | (_, b) dioE of
                                     w)F
               | _ dioE) of
     P xb
       (w. xaa. case (case case (daT, case daT, deT, xaT, xaaT of
                                                P x (x. case daT,xT,xaT,xaaT of P )T
                                                | _ (x. dio)E,
                                          daT,case xT,deT,xaT,xaaT of
                                                P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                                | _ (x. dio)E) of
                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                   | (_, b) dioE of
                              P xb
                                (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of
        P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
                                                   | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                             Р
                                                  w)P
                              | F xb
                                  (w. xaaa. case case (xaaaT,case daT,deT,xaT,xaaT of
          P \times (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P
          | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                     | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                     | (F, F) (w. w = w)F | (F, _) dioE
                                                     | (_, b) dioE of
                                                     w)F
                             | _ dioE)
                         (case case (daT,case daT,xaT,deT,xaaT of
                                                P x (x. case daT,xaT,xT,xaaT of P )T
                                                 | _ (x. dio)E,
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daT, case xT, xaT, deT, xaaT of
                                            P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                            | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                | (_, b) dioE of
                             (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
       P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
       | _ (x. dio)E) of
                                              | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                                              w)P
                           I F xb
                               (w. xaaa. case case (xaaaT,case daT,xaT,deT,xaaT of
         P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
 xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P
         | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                          | dioE)
                       (case case (daT,case daT,xaT,xaaT,deT of
                                           P x (x. case daT,xaT,xaaT,xT of P )T
                                            | _ (x. dio)E,
                                      daT,case xT,xaT,xaaT,deT of
                                           P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                            | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                | (_, b) dioE of
                           P xb
                             (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
       P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
       | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P, F) (w. w = w)F | (P, _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                         Р
                                              w)P
                           | F xb
                               (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
         P \times (x. case daT,xaT,xaaT,xT of P)T | _ (x. dio)E,
 xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P
         | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                | (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                                w)F
                          | _ dioE) of
     | F xb
        (w. xaa. case (case case (daT,case daT,deT,xaT,xaaT of
```

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P x (x. case daT,xT,xaT,xaaT of P )T
                                             | _ (x. dio)E,
                                       daT,case xT,deT,xaT,xaaT of
                                             P xb
                                               (xaaa. case xT,xaaaT,xaT,xaaT of P )T
                                              | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P, \_)  dioE | (F, P)  (w. w = w)F
                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
        P x (x. case daT,xT,xaT,xaaT of P )T | \_ (x. dio)E,
xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P, F) (w. w = w)F | (P, _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                               w)P
                            I F xb
                                (w. xaaa. case case (xaaaT, case daT, deT, xaT, xaaT of
          P x (x. case daT,xT,xaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xT,deT,xaT,xaaT of P xb (xaaa. case xT,xaaaT,xaT,xaaT of P )T
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                 | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                            | _ dioE)
                        (case case (daT,case daT,xaT,deT,xaaT of
                                             P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
                                       daT, case xT, xaT, deT, xaaT of
                                             P xb
                                               (xaaa. case xT,xaT,xaaaT,xaaT of P )T
                                              | _{-} (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
        P x (x. case daT,xaT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
       | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                               | (_, b) dioE of
                                                w)P
                            | F xb
                                (w. xaaa. case case (xaaaT, case daT, xaT, deT, xaaT of
          P \times (x. case daT,xaT,xT,xaaT of P)T | _ (x. dio)E,
  xaaaT,case xT,xaT,deT,xaaT of P xb (xaaa. case xT,xaT,xaaaT,xaaT of P )T
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
                                                 | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
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| _ dioE)
                         (case case (daT,case daT,xaT,xaaT,deT of
                                               P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
                                          daT, case xT, xaT, xaaT, deT of
                                                P xb
                                                  (xaaa. case xT,xaT,xaaT,xaaaT of P )T
                                                | _ (x. dio)E) of
                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                   | (_, b) dioE of
                             P xb
                                (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E, xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P
        | _ (x. dio)E) of
                                                  (P , P) (w. w = w)P
                                                  | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                                  w)P
                             | F xb
                                  (w. xaaa. case case (xaaaT,case daT,xaT,xaaT,deT of
          P x (x. case daT,xaT,xaaT,xT of P )T | _ (x. dio)E,
  xaaaT,case xT,xaT,xaaT,deT of P xb (xaaa. case xT,xaT,xaaT,xaaaT of P )T
          | _ (x. dio)E) of
                                                    (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                    | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b) dioE of
                   w)F
   | _ dioE of w)F
                                      | _ dioE) of
                                P xa
                                  (w. xa. case (case case (daT, case xT, deT, daT, daT of
                             P xa (xa. case xT,xaT,daT,daT of P )T \mid _ (x. dio)E,
                       daT,case xaT,deT,daT,daT of
                             P x (x. case xaT,xT,daT,daT of P )T
                | _ (x. dio)E) of
(P,P) (w. w = w)P | (P,F) (w. w = w)F | (P,_) dioE
                | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
          P xb
             (w. xaa. case case (xaaT,case xT,deT,daT,daT of
                                            P xa (xa. case xT,xaT,daT,daT of P )T
                                             | _ (x. dio)E,
                                     xaaT,case xaT,deT,daT,daT of
                                            P x (x. case xaT,xT,daT,daT of P )T
                                            | _ (x. dio)E) of
                               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                              | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                              | (_, b) dioE of
                              w)P
           | F xb
               (w. xaa. case case (xaaT,case xT,deT,daT,daT of
                                              P xa (xa. case xT,xaT,daT,daT of P )T
                                               | _ (x. dio)E,
                                       xaaT,case xaT,deT,daT,daT of
                                              P x (x. case xaT,xT,daT,daT of P )T
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| _ (x. dio)E) of
                       (P, P) (w. w = w)P | (P, F) (w. w = w)F
                       | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                       | (_, b) dioE of
                  F
                       w)F
   | _ dioE)
(case case (daT, case xT, daT, deT, daT of
                   P xa (xa. case xT,daT,xaT,daT of P )T | _ (x. dio)E,
              daT, case xaT, daT, deT, daT of
                   P x (x. case xaT,daT,xT,daT of P )T
                    | _{-} (x. dio)E) of
        | (F , _) dioE | (_, b) dioE of
   P xb
     (w. xaa. case case (xaaT,case xT,daT,deT,daT of
                                 P xa (xa. case xT,daT,xaT,daT of P )T
                                 | _ (x. dio)E,
                           xaaT,case xaT,daT,deT,daT of
                                 P x (x. case xaT,daT,xT,daT of P )T
                                 | _ (x. dio)E) of
                     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                     \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                     | (_, b) dioE of
                    w)P
   | F xb
       (w. xaa. case case (xaaT, case xT, daT, deT, daT of
                                   P xa (xa. case xT,daT,xaT,daT of P )T
                                   | _ (x. dio)E,
                            xaaT,case xaT,daT,deT,daT of
                                   P x (x. case xaT,daT,xT,daT of P )T
                                   | _ (x. dio)E) of
                       (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                       | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                       | (_, b) dioE of
                       w)F
   | dioE)
(case case (daT,case xT,daT,daT,deT of
                   P xa (xa. case xT,daT,daT,xaT of P )T | _ (x. dio)E,
              daT,case xaT,daT,daT,deT of
                   P x (x. case xaT,daT,daT,xT of P )T
        | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
   P xb
     (w. xaa. case case (xaaT,case xT,daT,daT,deT of
                                 P xa (xa. case xT,daT,daT,xaT of P )T
                                  | _ (x. dio)E,
                           xaaT,case xaT,daT,daT,deT of
                                 P x (x. case xaT,daT,daT,xT of P )T
                                 | _ (x. dio)E) of
                     (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                     | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                     | (_, b) dioE of
                     w)P
   | F xb
       (w. xaa. case case (xaaT,case xT,daT,daT,deT of
                                   P xa (xa. case xT,daT,daT,xaT of P )T
                                   | _ (x. dio)E,
                             xaaT,case xaT,daT,daT,deT of
                                   P x (x. case xaT,daT,daT,xT of P )T
```

```
| _ (x. dio)E) of
                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                   | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                   | (_, b) dioE of
                             F
                                   w)F
             | _ dioE) of
   P xb
     (w. xaa. case (case case (daT, case xT, deT, daT, xaaT of
                                              P xa (xa. case xT,xaT,daT,xaaT of P )T
                                              | _ (x. dio)E,
                                        daT, case xaT, deT, daT, xaaT of
                                              P x (x. case xaT,xT,daT,xaaT of P )T
                                              | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                 | (_, b) dioE of
                           P xb
                              (w. xaaa. case case (xaaaT, case xT, deT, daT, xaaT of
      P xa (xa. case xT,xaT,daT,xaaT of P )T \mid _ (x. dio)E,
                                                      xaaaT,case xaT,deT,daT,xaaT of
                                               )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
      P x (x. case xaT,xT,daT,xaaT of P
                                                 \label{eq:continuous} | \ (\texttt{P} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} = \ \texttt{w}) \texttt{F} \ | \ (\texttt{P} \ , \ \_) \quad \texttt{dioE}
                                                 | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                 | (_, b) dioE of
                                                 w)P
                            | F xb
                                (w. xaaa. case case (xaaaT, case xT, deT, daT, xaaT of
        P xa (xa. case xT,xaT,daT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xaT,deT,daT,xaaT of P x (x. case xaT,xT,daT,xaaT of P
        | _ (x. dio)E) of
                                                   (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                   | (F, P) (w. w = w)F
                                                   | (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                                   w)F
                           | _ dioE)
                       (case case (daT,case xT,daT,deT,xaaT of
                                              P xa (xa. case xT,daT,xaT,xaaT of P )T
                                              | _ (x. dio)E,
                                        daT, case xaT, daT, deT, xaaT of
                                              P x (x. case xaT,daT,xT,xaaT of P )T
                                              | _ (x. dio)E) of
                                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                              (w. xaaa. case case (xaaaT, case xT, daT, deT, xaaT of
      P xa (xa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
                                                       xaaaT,case xaT,daT,deT,xaaT of
      P \times (x. case xaT,daT,xT,xaaT of P
                                               )T \mid _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                 | (F, F) (w. w = w)F | (F, _) dioE
                                                 | (_, b) dioE of
                                                 w)P
                            | F xb
                                (w. xaaa. case case (xaaaT, case xT, daT, deT, xaaT of
        P xa (xa. case xT,daT,xaT,xaaT of P )T \mid (x. dio)E,
xaaaT,case xaT,daT,deT,xaaT of P x (x. case xaT,daT,xT,xaaT of P )T
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| _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                   | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                                   w)F
                           | _ dioE)
                       (case case (daT, case xT, daT, xaaT, deT of
                                              P xa (xa. case xT,daT,xaaT,xaT of P )T
                                              | _ (x. dio)E,
                                        daT,case xaT,daT,xaaT,deT of
                                              P x (x. case xaT,daT,xaaT,xT of P )T
                                              | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                 | (_, b) dioE of
                           P xb
                              (w. xaaa. case case (xaaaT,case xT,daT,xaaT,deT of
      P xa (xa. case xT,daT,xaT of P )T \mid _ (x. dio)E,
                                                      xaaaT,case xaT,daT,xaaT,deT of
                                              )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
      P x (x. case xaT,daT,xaaT,xT of P
                                                 \label{eq:continuous} | \ (\texttt{P} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} = \ \texttt{w}) \texttt{F} \ | \ (\texttt{P} \ , \ \_) \quad \texttt{dioE}
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                 | (_, b) dioE of
                                                w)P
                           | F xb
                                (w. xaaa. case case (xaaaT, case xT, daT, xaaT, deT of
        P xa (xa. case xT,daT,xaaT,xaT of P )T | \_ (x. dio)E,
xaaaT,case xaT,daT,xaaT,deT of P x (x. case xaT,daT,xaaT,xT of P
        | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
                                                   | (F, P) (w. w = w)F
                                                   | (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                                   w)F
                           | _ dioE) of
                      w)P
   I F xb
       (w. xaa. case (case case (daT, case xT, deT, daT, xaaT of
                                                P xa (xa. case xT,xaT,daT,xaaT of P )T | _ (x. dio)E,
                                          daT, case xaT, deT, daT, xaaT of
                                                P x (x. case xaT,xT,daT,xaaT of P )T
                                                | _ (x. dio)E) of
                                    (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                   | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                   | (_, b) dioE of
                             P xb
                                (w. xaaa. case case (xaaaT, case xT, deT, daT, xaaT of
        P xa (xa. case xT,xaT,daT,xaaT of P )T \mid _ (x. dio)E,
xaaaT,case xaT,deT,daT,xaaT of P x (x. case xaT,xT,daT,xaaT of P
        | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                   | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                                   w)P
                              l F xb
                                  (w. xaaa. case case (xaaaT, case xT, deT, daT, xaaT of
```

```
P xa (xa. case xT,xaT,daT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xaT,deT,daT,xaaT of P x (x. case xaT,xT,daT,xaaT of P
           | _ (x. dio)E) of
                                                       (P, P) (w. w = w)P
                                                      | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F | (F, _) dioE
| (F, F) (w. w = w)F | (F, _) dioE
                                                      | (_, b) dioE of
                                                 F
                                                       w)F
                              | _ dioE)
                          (case case (daT,case xT,daT,deT,xaaT of
                                                 P xa (xa. case xT,daT,xaT,xaaT of P )T
                                                  | _ (x. dio)E,
                                           daT,case xaT,daT,deT,xaaT of
                                                 P x (x. case xaT,daT,xT,xaaT of P )T
                                    | _ (x. dio)E) of
(P, P) (w. w = w)P | (P, F) (w. w = w)F
                                    | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                    | (_, b) dioE of
                                 (w. xaaa. case case (xaaaT,case xT,daT,deT,xaaT of
        P xa (xa. case xT,daT,xaT,xaaT of P )T | \_ (x. dio)E,
xaaaT,case xaT,daT,deT,xaaT of P x (x. case xaT,daT,xT,xaaT of P
        | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                     \label{eq:continuous} | \ (\texttt{P} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} = \ \texttt{w}) \texttt{F} \ | \ (\texttt{P} \ , \ \_) \quad \texttt{dioE}
                                                    | (F, P) (w. w = w)F
                                                    | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
                                                    | (_, b) dioE of
                                                    w)P
                               | F xb
                                   (w. xaaa. case case (xaaaT,case xT,daT,deT,xaaT of
           P xa (xa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xaT,daT,deT,xaaT of P x (x. case xaT,daT,xT,xaaT of P
           | _ (x. dio)E) of
                                                       (P, P) (w. w = w)P
                                                      | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                      | (_, b) dioE of
                                                      w)F
                              | _ dioE)
                          (case case (daT,case xT,daT,xaaT,deT of
                                                 P xa (xa. case xT,daT,xaaT,xaT of P )T
                                                 | _ (x. dio)E,
                                           daT, case xaT, daT, xaaT, deT of
                                                 P x (x. case xaT,daT,xaaT,xT of P )T
                                                 | _ (x. dio)E) of
                                    (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                    | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                    | (_, b) dioE of
                              P xb
                                 (w. xaaa. case case (xaaaT,case xT,daT,xaaT,deT of
        P xa (xa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
xaaaT,case xaT,daT,xaaT,deT of P x (x. case xaT,daT,xaaT,xT of P
        | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                     | (P, F) (w. w = w)F | (P, _) dioE
                                                    | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                    | (_, b) dioE of
                                                    w)P
                               l F xb
                                   (w. xaaa. case case (xaaaT, case xT, daT, xaaT, deT of
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P xa (xa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
  xaaaT,case xaT,daT,xaaT,deT of P x (x. case xaT,daT,xaaT,xT of P
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F | (F, _) dioE
| (F, F) (w. w = w)F | (F, _) dioE
                                                   | (_, b) dioE of
                                             F
                                                   w)F
                            | _ dioE) of
                  F w)F
   | _ dioE of
                                                     P xb
(w. xaa. case case (case case (daT,case xT,deT,xaaT,daT of
                                             P xa (xa. case xT,xaT,xaaT,daT of P )T
                                            | _ (x. dio)E,
                                      daT, case xaT, deT, xaaT, daT of
                                            P x (x. case xaT,xT,xaaT,daT of P )T
                                            | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                | (_, b) dioE of
                          P xb
                             (w. xaaa. case case (xaaaT,case xT,deT,xaaT,daT of
      P xa (xa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
                                                     xaaaT,case xaT,deT,xaaT,daT of
      P \times (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
| (P, F) (w. w = w)F | (P, _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                              w)P
                          I F xb
                               (w. xaaa. case case (xaaaT,case xT,deT,xaaT,daT of
        P xa (xa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
xaaaT,case xaT,deT,xaaT,daT of P x (x. case xaT,xT,xaaT,daT of P
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P, F) (w. w = w)F | (P, _) dioE
                                                 | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)F
                          | _ dioE)
                      (case case (daT,case xT,xaaT,deT,daT of
                                            P xa (xa. case xT,xaaT,xaT,daT of P )T
                                             | _ (x. dio)E,
                                      daT, case xaT, xaaT, deT, daT of
                                            P x (x. case xaT,xaaT,xT,daT of P )T
                                            | _ (x. dio)E) of
                                (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                | (_, b) dioE of
                          P xb
                             (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
      P xa (xa. case xT,xaaT,xaT,daT of P )T | _ (x. dio)E,
                                                    xaaaT,case xaT,xaaT,deT,daT of
                                             )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
      P x (x. case xaT,xaaT,xT,daT of P
                                               \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
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w)P
                          | F xb
                             (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
        P xa (xa. case xT,xaaT,xaT,daT of P )T \mid _ (x. dio)E,
xaaaT,case xaT,xaaT,deT,daT of P x (x. case xaT,xaaT,xT,daT of P
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
                                                | (F, P) (w. w = w)F
                                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                          | _ dioE)
                      (case case (daT,case xT,xaaT,daT,deT of
                                            P xa (xa. case xT,xaaT,daT,xaT of P )T
                                           | _ (x. dio)E,
                                      daT, case xaT, xaaT, daT, deT of
                                           P x (x. case xaT,xaaT,daT,xT of P )T
                                           | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                               | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                               | (_, b) dioE of
                          P xb
                            (w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
     P xa (xa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
                                                    xaaaT,case xaT,xaaT,daT,deT of
     P \times (x. case xaT, xaaT, daT, xT of P )T | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
| (P, F) (w. w = w)F | (P, _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                              w)P
                          I F xb
                             (w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
        P xa (xa. case xT,xaaT,daT,xaT of P )T | \_ (x. dio)E,
xaaaT,case xaT,xaaT,daT,deT of P x (x. case xaT,xaaT,daT,xT of P
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                                w)F
                          | _ dioE) of
                  (w. xaaa. case (case case (daT,case xT,deT,xaaT,xaaaT of
    P xa (xa. case xT,xaT,xaaT,xaaaT of P )T \mid _ (x. dio)E,
                                                   daT, case xaT, deT, xaaT, xaaaT of
                                             )T \mid _ (x. dio)E) of
    P x (x. case xaT,xT,xaaT,xaaaT of P
                                              (P, P) (w. w = w)P
                                              | (P, F) (w. w = w)F | (P, _) dioE
                                             | (F, P) (w. w = w)F | (F, _) dioE | (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
                      (w. xaaaa. case case (xaaaaT,case xT,deT,xaaT,xaaaT of P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xaT,deT,xaaT,xaaaT of
        | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
       | (_, b) dioE of
       w)P
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| F xb

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(w. xaaaa.
case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                   P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,deT,xaaT,xaaaT of
                   P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)F
                                        | _ dioE)
                                     (case case (daT,case xT,xaaT,deT,xaaaT of
     P xa (xa. case xT,xaaT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                    daT, case xaT, xaaT, deT, xaaaT of
     P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                              | (_, b) dioE of
                                           (w. xaaaa. case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                       P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xaT,xaaT,deT,xaaaT of
                      P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of
        (P\ ,\ P\ )\  \  (w.\ w\ =\ w)P\ |\  (P\ ,\ F\ )\  \  (w.\ w\ =\ w)F\ |\  (P\ ,\ \_)\  \  dioE
        | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
        | (_, b) dioE of
        w)P
                                         l F xb
                                             (w. xaaaa.
case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                    P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,xaaT,deT,xaaaT of
     | (_, b) dioE of
F
     w)F
                                         | _ dioE)
                                     (case case (daT,case xT,xaaT,xaaaT,deT of
     P xa (xa. case xT,xaaT,xaaaT,xaT of P )T \mid _ (x. dio)E,
                                                   daT,case xaT,xaaT,xaaaT,deT of
     P x (x. case xaT,xaaT,xaaaT,xT of P )T | \_ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                              | (_, b) dioE of
                                         P xb
                                          (w. xaaaa. case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                       P xa (xa. case xT,xaaT,xaaaT,xaT of P )T \mid _ (x. dio)E,
              xaaaaT,case xaT,xaaT,xaaaT,deT of
        \label{eq:problem} P\ x\ (x.\ case\ xaT,xaaT,xaaaT,xT\ of\ P\ )T\ |\ \_\ (x.\ dio)E)\ of\ (P\ ,\ P\ )\ (w.\ w=\ w)F\ |\ (P\ ,\ \_)\ dioE
        | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
   Р
        w)P
                                         | F xb
                                             (w. xaaaa.
case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                   P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,xaaT,xaaaT,deT of
     P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
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| (\_, b) dioE of

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F w)F
                                       | _ dioE) of
                 | F xb
                   (w. xaaa. case (case case (daT,case xT,deT,xaaT,xaaaT of
      P xa (xa. case xT,xaT,xaaT,xaaaT of P )T \mid (x. dio)E,
 daT, case xaT, deT, xaaT, xaaaT of P x (x. case xaT, xT, xaaaT, xaaaT of P )T
      (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                               | (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                          P xb
                                            (w. xaaaa.
case case (xaaaaT, case xT, deT, xaaT, xaaaT of
                   P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,deT,xaaT,xaaaT of
                   P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)P
                                          | F xb
                                              (w. xaaaa.
  case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                     P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xaT,deT,xaaT,xaaaT of
       P x (x. case xaT,xT,xaaT,xaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
      w)F
                                          | _ dioE)
                                      (case case (daT,case xT,xaaT,deT,xaaaT of
      P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
 daT, case xaT, xaaT, deT, xaaaT of P x (x. case xaT, xaaT, xT, xaaaT of P
       | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
                                               | (F, P) (w. w = w)F
                                               | (F , F ) (w. w = w)F | (F , _) dioE
| (_, b) dioE of
                                          P xb
                                            (w. xaaaa.
case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                   P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,xaaT,deT,xaaaT of
                    P \times (x. case xaT, xaaT, xT, xaaaT of P )T | _ (x. dio)E) of
     | (_, b) dioE of
    w)P
                                          I F xb
                                              (w. xaaaa.
  case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                      P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xaT,xaaT,deT,xaaaT of
                    P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of
       (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
       w)F
                                          | _ dioE)
                                      (case case (daT,case xT,xaaT,xaaaT,deT of
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P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | \_ (x. dio)E,

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daT,case xaT,xaaT,xaaaT,deT of P x (x. case xaT,xaaT,xaaaT,xT of P )T
      | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P, F) (w. w = w)F | (P, _) dioE
                                                    | (F, P) (w. w = w)F
                                                    | (F , F ) (w. w = w)F | (F , _) dioE
                                                    | (_, b) dioE of
case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                    P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
            xaaaaT,case xaT,xaaT,xaaaT,deT of
     P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)P
                                              | F xb
                                                  (w. xaaaa.
  case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                       P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
              xaaaaT,case xaT,xaaT,xaaaT,deT of
       \label{eq:problem} P\ x\ (x.\ case\ xaT,xaaT,xaaaT,xT\ of\ P\ )T\ |\ \_\ (x.\ dio)E)\ of\ (P\ ,\ P\ )\ (w.\ w=\ w)F\ |\ (P\ ,\ \_)\ dioE
       | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
       | (_, b) dioE of
       w)F
                                   | _ dioE) of F w)F
                      dioE of
                                                        | F xb
   (w. xaa. case case (case case (daT,case xT,deT,xaaT,daT of
                                                 P xa (xa. case xT,xaT,xaaT,daT of P )T
                                                 | _ (x. dio)E,
                                           daT, case xaT, deT, xaaT, daT of
                                                P x (x. case xaT,xT,xaaT,daT of P )T
                                    | _ (x. dio)E) of
(P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
                                    \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                    | (_, b) dioE of
                               P xb
                                 (w. xaaa. case case (xaaaT,case xT,deT,xaaT,daT of
         P xa (xa. case xT,xaT,xaaT,daT of P )T \mid _ (x. dio)E,
 xaaaT,case xaT,deT,xaaT,daT of P x (x. case xaT,xT,xaaT,daT of P
         | _ (x. dio)E) of
                                                    (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                    | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                    | (_, b) dioE of
                                                   w)P
                               | F xb
                                  (w. xaaa. case case (xaaaT, case xT, deT, xaaT, daT of
           P xa (xa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
   xaaaT,case xaT,deT,xaaT,daT of P x (x. case xaT,xT,xaaT,daT of P
           | _ (x. dio)E) of
                                                      (P, P) (w. w = w)P
                                                      \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                      | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                      | (_, b) dioE of
                                                      w)F
                              | _ dioE)
                          (case case (daT, case xT, xaaT, deT, daT of
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P xa (xa. case xT,xaaT,xaT,daT of P )T
                                              | _ (x. dio)E,
                                        daT,case xaT,xaaT,deT,daT of
                                              P x (x. case xaT,xaaT,xT,daT of P )T
                                              | _ (x. dio)E) of
                                  (P \ , \ P \ ) \quad (w. \quad w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \quad w = \ w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
        P xa (xa. case xT,xaaT,xaT,daT of P )T | _ (x. dio)E,
xaaaT,case xaT,xaaT,deT,daT of P x (x. case xaT,xaaT,xT,daT of P
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                | (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)P
                            | F xb
                                (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
          P xa (xa. case xT,xaaT,xaT,daT of P )T | _ (x. dio)E,
  xaaaT,case xaT,xaaT,deT,daT of P x (x. case xaT,xaaT,xT,daT of P
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                  \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                            | _ dioE)
                        (case case (daT,case xT,xaaT,daT,deT of
                                              P xa (xa. case xT,xaaT,daT,xaT of P )T
                                              | _ (x. dio)E,
                                        daT, case xaT, xaaT, daT, deT of
                                              P x (x. case xaT,xaaT,daT,xT of P )T
                                  | _{-} (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
        P xa (xa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
xaaaT,case xaT,xaaT,daT,deT of P x (x. case xaT,xaaT,daT,xT of P
        | _ (x. dio)E) of
                                                (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)P
                            | F xb
                                (w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
          P xa (xa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
  xaaaT,case xaT,xaaT,daT,deT of P x (x. case xaT,xaaT,daT,xT of P
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                           | _ dioE) of
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P xb

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(w. xaaa. case (case case (daT, case xT, deT, xaaT, xaaaT of
       P xa (xa. case xT,xaT,xaaT,xaaaT of P )T \mid _ (x. dio)E,
 daT,case xaT,deT,xaaT,xaaaT of P x (x. case xaT,xT,xaaT,xaaaT of P )T
       | _ (x. dio)E) of
                                                      (P, P) (w. w = w)P
                                                      | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                      | (_, b) dioE of
                                                P xb
                                                   (w. xaaaa.
case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                      P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xaT,deT,xaaT,xaaaT of
     P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE
     | (_, b) dioE of
     w)P
                                                 | F xb
                                                     (w. xaaaa.
  case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                        P xa (xa. case xT,xaT,xaaT,xaaT of P )T | _ (x. dio)E,
               xaaaaT,case xaT,deT,xaaT,xaaaT of
                         P \times (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
        (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
       w)F
                                                | _ dioE)
                                            (case case (daT, case xT, xaaT, deT, xaaaT of
        P xa (xa. case xT,xaaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
 daT, case xaT, xaaT, deT, xaaaT of P x (x. case xaT, xaaT, xT, xaaaT of P )T
       | _ (x. dio)E) of
                                                      (P, P) (w. w = w)P
                                                      | (P, F) (w. w = w)F | (P, _) dioE
                                                      | (F, P) (w. w = w)F
                                                      | (F , F ) (w. w = w)F | (F , _) dioE
                                                      | (_, b) dioE of
                                                P xb
                                                   (w. xaaaa.
case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                      P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xaT,xaaT,deT,xaaaT of
     \label{eq:problem} P\ x\ (x.\ case\ xaT,xaaT,xT,xaaaT\ of\ P\ )T\ |\ \_\ (x.\ dio)E)\ of\ (P\ ,\ P\ )\ (w.\ w=\ w)F\ |\ (P\ ,\ \_)\ dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)P
                                                 | F xb
                                                     (w. xaaaa.
  case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                         P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xaT,xaaT,deT,xaaaT of
                        P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE 
        \label{eq:continuous} | \ (\texttt{F} \ , \ \texttt{P} \ ) \ (\texttt{w}. \ \texttt{w} = \ \texttt{w}) \texttt{F} \ | \ (\texttt{F} \ , \ \texttt{F} \ ) \ (\texttt{w}. \ \texttt{w} = \ \texttt{w}) \texttt{F} \ | \ (\texttt{F} \ , \ \texttt{\_}) \ \ \texttt{dioE}
        | (_, b) dioE of
       w)F
                                                | _ dioE)
                                           (case case (daT,case xT,xaaT,xaaaT,deT of
       P xa (xa. case xT,xaaT,xaaaT,xaT of P )T \mid _ (x. dio)E,
 daT,case xaT,xaaT,xaaaT,deT of P x (x. case xaT,xaaT,xaaaT,xT of P
       | _ (x. dio)E) of
                                                      (P, P) (w. w = w)P
                                                      | (P, F) (w. w = w)F | (P, _) dioE
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 | (F , P ) (w. w = w)F 
 | (F , F ) (w. w = w)F | (F , _) dioE 
                                           | (_, b) dioE of
                                       P xb
                                        (w. xaaaa.
case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                  P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
          xaaaaT,case xaT,xaaT,xaaaT,deT of
    | (_, b) dioE of
    w)P
Р
                                       | F xb
                                           (w. xaaaa.
 case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                   P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
            xaaaaT,case xaT,xaaT,xaaaT,deT of
                    P \times (x. case xaT, xaaT, xaaaT, xT of P)T | _ (x. dio)E) of
      (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
      | (_, b) dioE of
      w)F
                                      | _ dioE) of
                 | F xb
                     (w. xaaa. case (case case (daT,case xT,deT,xaaT,xaaaT of
        P xa (xa. case xT,xaT,xaaT,xaaaT of P )T \mid (x. dio)E,
  daT,case xaT,deT,xaaT,xaaaT of P x (x. case xaT,xT,xaaT,xaaaT of P )T
        | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                             | (_, b) dioE of
                                         P xb
                                           (w. xaaaa.
 case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                    P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xaT,deT,xaaT,xaaaT of
                   P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
      | (_, b) dioE of
 Р
      w)P
                                            (w.
xaaaa. case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                         P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
                         | _ (x. dio)E,
                 xaaaaT,case xaT,deT,xaaT,xaaaT of
                          P x (x. case xaT,xT,xaaT,xaaaT of P )T
            | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
            | (_, b) dioE of
       F
            w)F
                                        | _ dioE)
                                     (case case (daT,case xT,xaaT,deT,xaaaT of
        P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
  daT, case xaT, xaaT, deT, xaaaT of P x (x. case xaT, xaaT, xT, xaaaT of P
        | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                             | (F, F) (w. w = w)F | (F, _) dioE
```

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| (_, b) dioE of
                                                (w. xaaaa.
  case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                     P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xaT,xaaT,deT,xaaaT of
        P \ x \ (x. \ case \ xaT,xaaT,xT,xaaaT \ of \ P \ )T \ | \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ dioE 
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
       w)P
                                              | F xb
                                                  (w.
xaaaa. case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                             P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
                             | _ (x. dio)E,
                    xaaaaT,case xaT,xaaT,deT,xaaaT of
                            P x (x. case xaT,xaaT,xT,xaaaT of P )T
                             | _ (x. dio)E) of
              (P , P) (w. w = w)P | (P , F) (w. w = w)F | (P , _) dioE
             | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
             | (_, b) dioE of
             w)F
                                              | _ dioE)
                                          (case case (daT,case xT,xaaT,xaaaT,deT of
   P xa (xa. case xT,xaaT,xaaaT,xaaT of P )T | _ (x. dio)E, daT,case xaT,xaaT,xaaaT,deT of P x (x. case xaT,xaaT,xaaaT,xT of P )T
         | _ (x. dio)E) of
                                                   (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                   | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b) dioE of
                                              P xb
                                                (w. xaaaa.
  case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                     P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
             xaaaaT,case xaT,xaaT,xaaaT,deT of
       P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
       | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE
       | (_, b) dioE of
       w)P
                                                   (w.
xaaaa. case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                             P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
                             | _ (x. dio)E,
                    xaaaaT,case xaT,xaaT,xaaaT,deT of
                            P x (x. case xaT, xaaT, xaaaT, xT of P )T
                             | _ (x. dio)E) of
              (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
             | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
             | (_, b) dioE of
             w)F
                                    | _ dioE) of F w)F
                    | _ dioE of
                    w)F
                                                      | _ dioE)
                                                     (case case (case case (daT, case xaT, deT, daT, daT of
                               P x (x. case xaT,xT,daT,daT of P )T | _ (x. dio)E,
                         daT,case xT,deT,daT,daT of
                               P xa (xa. case xT,xaT,daT,daT of P )T
                               | _ (x. dio)E) of
                   (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
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| (F, P) (w. w = w)F | (F, F) (w. w = w)F
        | (F , _) dioE | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT,case xaT,deT,daT,daT of
                                   P x (x. case xaT,xT,daT,daT of P )T
                                    | _ (x. dio)E,
                            xaaT,case xT,deT,daT,daT of
                                   P xa (xa. case xT,xaT,daT,daT of P )T
                                   | _ (x. dio)E) of
                      (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                      \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                      | (_, b) dioE of
                      w)P
   | F xb
       (w. xaa. case case (xaaT, case xaT, deT, daT, daT of
                                     P x (x. case xaT,xT,daT,daT of P )T
                                     | _ (x. dio)E,
                              xaaT,case xT,deT,daT,daT of
                                     P xa (xa. case xT,xaT,daT,daT of P )T
                        | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                        | (_, b) dioE of
                        w)F
   | _ dioE)
(case case (daT,case xaT,daT,deT,daT of
                    P x (x. case xaT,daT,xT,daT of P )T | _ (x. dio)E,
               daT,case xT,daT,deT,daT of
                    P xa (xa. case xT,daT,xaT,daT of P )T
                     | _ (x. dio)E) of
         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
        | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _ ) dioE | (_ , b) dioE of
   P xb
      (w. xaa. case case (xaaT,case xaT,daT,deT,daT of
                                   P x (x. case xaT,daT,xT,daT of P)T
                                    | _ (x. dio)E,
                            xaaT,case xT,daT,deT,daT of
                                   P xa (xa. case xT,daT,xaT,daT of P )T
                       | \  \  | \  \  (x. \ dio)E) \ of \\ (P \ , \ P \ ) \  \  (w. \ w = \ w)F \ | \  (P \ , \ F \ ) \  \  (w. \ w = \ w)F 
                      | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                      | (_, b) dioE of
                      w)P
   | F xb
        (w. xaa. case case (xaaT,case xaT,daT,deT,daT of
                                    P x (x. case xaT,daT,xT,daT of P )T | (x. dio)E,
                              xaaT,case xT,daT,deT,daT of
                                     P xa (xa. case xT,daT,xaT,daT of P )T
                                     | _ (x. dio)E) of
                        (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                        | (P , _) dioE | (F , P ) (w. w = w)F
                        \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                        | (_, b)  dioE of
                   F
                        w)F
   | _ dioE)
(case case (daT, case xaT, daT, daT, deT of
                    P x (x. case xaT,daT,daT,xT of P )T | _ (x. dio)E,
               daT,case xT,daT,daT,deT of
                     P xa (xa. case xT,daT,daT,xaT of P )T
                     | _ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
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| (F, P) (w. w = w)F | (F, F) (w. w = w)F
                | (F , _) dioE | (_, b) dioE of
           P xb
              (w. xaa. case case (xaaT,case xaT,daT,daT,deT of
                                         P x (x. case xaT,daT,daT,xT of P )T
                                          | _ (x. dio)E,
                                   xaaT,case xT,daT,daT,deT of
                                          P xa (xa. case xT,daT,daT,xaT of P )T
                                          | _ (x. dio)E) of
                             (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                              \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                             | (_, b) dioE of
                             w)P
           | F xb
               (w. xaa. case case (xaaT,case xaT,daT,daT,deT of
                                           P x (x. case xaT,daT,daT,xT of P )T
                                            | _ (x. dio)E,
                                     xaaT,case xT,daT,daT,deT of
                                            P xa (xa. case xT,daT,daT,xaT of P )T
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                               | (_, b) dioE of
                               w)F
           | _ dioE) of
  P xb
    (w. xaa. case (case case (daT, case xaT, deT, daT, xaaT of
                                         P x (x. case xaT,xT,daT,xaaT of P )T
                                         | _ (x. dio)E,
                                   daT, case xT, deT, daT, xaaT of
                                         P xa (xa. case xT,xaT,daT,xaaT of P )T
                                         | _ (x. dio)E) of
                              (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                             | (_, b) dioE of
                          (w. xaaa. case case (xaaaT,case xaT,deT,daT,xaaT of
     P \times (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E,
                                                 xaaaT,case xT,deT,daT,xaaT of
     P xa (xa. case xT,xaT,daT,xaaT of P )T | _ (x. dio)E) of
                                           (P, P) (w. w = w)P
                                           | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                           | (F, F) (w. w = w)F | (F, _) dioE
                                           | (_, b) dioE of
                                      Ρ
                                           w)P
                            (w. xaaa. case case (xaaaT,case xaT,deT,daT,xaaT of
        P x (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,daT,xaaT of P xa (xa. case xT,xaT,daT,xaaT of P )T
       | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                             | (F, P) (w. w = w)F
                                             | (F , F ) (w. w = w)F | (F , _) dioE
                                             | (_, b) dioE of
                                             w)F
                        | _ dioE)
                     (case case (daT,case xaT,daT,deT,xaaT of
                                         P x (x. case xaT,daT,xT,xaaT of P )T
                                         | _ (x. dio)E,
                                   daT,case xT,daT,deT,xaaT of
                                         P xa (xa. case xT,daT,xaT,xaaT of P )T
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| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                             | (_, b) dioE of
                        P xb
                          (w. xaaa. case case (xaaaT, case xaT, daT, deT, xaaT of
     P x (x. case xaT,daT,xT,xaaT of P )T | \_ (x. dio)E,
                                                xaaaT,case xT,daT,deT,xaaT of
     P xa (xa. case xT,daT,xaT,xaaT of P
                                            )T | _ (x. dio)E) of
                                           (P, P) (w. w = w)P
                                           \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                           | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                           | (_, b) dioE of
                                           w)P
                        | F xb
                           (w. xaaa. case case (xaaaT,case xaT,daT,deT,xaaT of
       P \times (x. case xaT,daT,xT,xaaT of P)T | _ (x. dio)E,
xaaaT,case xT,daT,deT,xaaT of P xa (xa. case xT,daT,xaT,xaaT of P )T
       | _ (x. dio)E) of
                                             (P , P ) (w. w = w)P
                                             | (P, F) (w. w = w)F | (P, _) dioE
                                             | (F, P) (w. w = w)F
                                             | (F, F) (w. w = w)F | (F, _) dioE
                                             | (_, b) dioE of
                                             w)F
                        | _ dioE)
                    (case case (daT,case xaT,daT,xaaT,deT of
                                         P x (x. case xaT,daT,xaaT,xT of P )T
                                         | _ (x. dio)E,
                                   daT, case xT, daT, xaaT, deT of
                                         P xa (xa. case xT,daT,xaaT,xaT of P )T
                                         | _ (x. dio)E) of
                             (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                             | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                             | (_, b) dioE of
                          (w. xaaa. case case (xaaaT,case xaT,daT,xaaT,deT of
     P \times (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E,
                                                xaaaT,case xT,daT,xaaT,deT of
                                           )T | _ (x. dio)E) of
     P xa (xa. case xT,daT,xaaT,xaT of P
                                           (P, P) (w. w = w)P
                                           | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                           | (F, F) (w. w = w)F | (F, _) dioE
                                           | (_, b) dioE of
                                      Ρ
                                           w)P
                            (w. xaaa. case case (xaaaT,case xaT,daT,xaaT,deT of
       P \times (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,daT,xaaT,deT of P xa (xa. case xT,daT,xaaT,xaT of P )T
       | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                             | (F, P) (w. w = w)F
                                             | (F , F ) (w. w = w)F | (F , _) dioE
                                             | (_, b) dioE of
                                             w)F
                        | _ dioE) of
  | F xb
       (w. xaa. case (case case (daT, case xaT, deT, daT, xaaT of
                                           P x (x. case xaT,xT,daT,xaaT of P )T
                                           | _ (x. dio)E,
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daT, case xT, deT, daT, xaaT of
                                            P xa (xa. case xT,xaT,daT,xaaT of P
                                            | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                | (_, b) dioE of
                             (w. xaaa. case case (xaaaT, case xaT, deT, daT, xaaT of
       P x (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,daT,xaaT of P xa (xa. case xT,xaT,daT,xaaT of P )T
       | _ (x. dio)E) of
                                              | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                                              w)P
                           I F xb
                               (w. xaaa. case case (xaaaT,case xaT,deT,daT,xaaT of
         P \times (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E,
 xaaaT,case xT,deT,daT,xaaT of P xa (xa. case xT,xaT,daT,xaaT of P )T
         | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                           | _ dioE)
                       (case case (daT, case xaT, daT, deT, xaaT of
                                            P x (x. case xaT,daT,xT,xaaT of P )T
                                            | _ (x. dio)E,
                                      daT, case xT, daT, deT, xaaT of
                                            P xa (xa. case xT,daT,xaT,xaaT of P )T
                                            | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                | (_, b) dioE of
                           P xb
                             (w. xaaa. case case (xaaaT,case xaT,daT,deT,xaaT of
       P x (x. case xaT,daT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,daT,deT,xaaT of P xa (xa. case xT,daT,xaaT,xaaT of P )T
       | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P, F) (w. w = w)F | (P, _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                         Р
                                              w)P
                           | F xb
                               (w. xaaa. case case (xaaaT,case xaT,daT,deT,xaaT of
         P \times (x. case xaT,daT,xT,xaaT of P )T | _ (x. dio)E,
 xaaaT,case xT,daT,deT,xaaT of P xa (xa. case xT,daT,xaT,xaaT of P
         | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                | (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                                w)F
                           | _ dioE)
                       (case case (daT, case xaT, daT, xaaT, deT of
                                            P x (x. case xaT,daT,xaaT,xT of P )T
                                            | _ (x. dio)E,
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daT,case xT,daT,xaaT,deT of
                                                P xa (xa. case xT,daT,xaaT,xaT of P )T
                                                 | _ (x. dio)E) of
                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                   | (P , _) dioE | (F , P ) (w. w = w)F
                                   \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                   | (_, b) dioE of
                                (w. xaaa. case case (xaaaT, case xaT, daT, xaaT, deT of
        P x (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,daT,xaaT,deT of P xa (xa. case xT,daT,xaaT,xaT of P )T
        | _ (x. dio)E) of
                                                   (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                   | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                   | (_, b) dioE of
                                                   w)P
                              l F xb
                                  (w. xaaa. case case (xaaaT,case xaT,daT,xaaT,deT of
           P \times (x. case xaT,daT,xaaT,xT of P)T | _ (x. dio)E,
  xaaaT,case xT,daT,xaaT,deT of P xa (xa. case xT,daT,xaaT,xaT of P )T
          | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                     | (P , F ) (w. w = w)F | (P , _) dioE
                                                     | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                     | (_, b) dioE of
                         | _ dioE) of w)F
                                                     w)F
   | _ dioE of
(w. xaa. case case (case case (daT, case xaT, deT, xaaT, daT of
                                              P x (x. case xaT,xT,xaaT,daT of P )T
                                              | _ (x. dio)E,
                                       daT, case xT, deT, xaaT, daT of
                                              P xa (xa. case xT,xaT,xaaT,daT of P )T
                                 | _{-} (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                              (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
      P x (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
                                                       xaaaT,case xT,deT,xaaT,daT of
      P xa (xa. case xT,xaT,xaaT,daT of P
                                                 )T | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 \label{eq:continuous} | \ (\texttt{P} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} = \ \texttt{w})\texttt{F} \ | \ (\texttt{P} \ , \ \_) \quad \texttt{dioE}
                                                 | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)P
                                           Р
                               (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
        P \times (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,xaaT,daT of P xa (xa. case xT,xaT,xaaT,daT of P )T
        | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                   \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                   | (_, b) dioE of
                                             F
                                                  w)F
                           | _ dioE)
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(case case (daT, case xaT, xaaT, deT, daT of
                                              P x (x. case xaT,xaaT,xT,daT of P )T
                                              | _ (x. dio)E,
                                        daT, case xT, xaaT, deT, daT of
                                              P xa (xa. case xT,xaaT,xaT,daT of P )T
                                  | \ \_ \ (x. \ dio)E) \ of \\ (P \ , \ P \ ) \ (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \ (w. \ w = \ w)F 
                                 | (P, \_)  dioE | (F, P)  (w. w = w)F
                                 | (F, F) (w. w = w)F | (F, _) dioE
                                 | (_, b) dioE of
                           P xb
                              (w. xaaa. case case (xaaaT,case xaT,xaaT,deT,daT of
      P x (x. case xaT,xaaT,xT,daT of P )T | _ (x. dio)E,
                                                       xaaaT,case xT,xaaT,deT,daT of
                                                )T | _ (x. dio)E) of
(P , P ) (w. w = w)P
      P xa (xa. case xT,xaaT,xaT,daT of P
                                                 | (P, F) (w. w = w)F | (P, _) dioE
                                                 | (F, P) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                                w)P
                           I F xb
                                (w. xaaa. case case (xaaaT, case xaT, xaaT, deT, daT of
        P x (x. case xaT,xaaT,xT,daT of P )T | _ (x. dio)E,
xaaaT,case xT,xaaT,daT of P xa (xa. case xT,xaaT,xaT,daT of P )T
        | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
                                                   | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                                  w)F
                           | _ dioE)
                       (case case (daT,case xaT,xaaT,daT,deT of
                                              P x (x. case xaT,xaaT,daT,xT of P )T
                                              | _ (x. dio)E,
                                        daT, case xT, xaaT, daT, deT of
                                              P xa (xa. case xT,xaaT,daT,xaT of P )T
                                 | _{-} (x. dio)E) of (P, P) (w. w = w)F | (P, F) (w. w = w)F
                                 | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                           P xb
                              (w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of
      P x (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E,
                                                       xaaaT,case xT,xaaT,daT,deT of
      P xa (xa. case xT,xaaT,daT,xaT of P
                                                 )T | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 \label{eq:continuous} | \ (\texttt{P} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} = \ \texttt{w})\texttt{F} \ | \ (\texttt{P} \ , \ \_) \quad \texttt{dioE}
                                                 | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                           Р
                                                w)P
                               (w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of
        P \times (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaaT,daT,deT of P xa (xa. case xT,xaaT,daT,xaT of P )T
        | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                   | (F, F) (w. w = w)F | (F, _) dioE
                                                   | (_, b) dioE of
                                                   w)F
                           | _ dioE) of
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(w. xaaa. case (case case (daT, case xaT, deT, xaaT, xaaaT of
     P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
                                                     daT,case xT,deT,xaaT,xaaaT of
                                               )T \mid _ (x. dio)E) of
     P xa (xa. case xT,xaT,xaaT,xaaaT of P
                                               (P, P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                               | (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                          P xb
                                            (w. xaaaa. case case (xaaaaT, case xaT, deT, xaaT, xaaaT of
                       P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xT,deT,xaaT,xaaaT of
        P xa (xa. case xT,xaT,xaaT,xaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
  Р
        w)P
                                          | F xb
                                             (w. xaaaa.
case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                   P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xT,deT,xaaT,xaaaT of
                   P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E) of
     | (_, b) dioE of
    w)F
                                         | _ dioE)
                                      (case case (daT,case xaT,xaaT,deT,xaaaT of
     P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
                                                     daT,case xT,xaaT,deT,xaaaT of
     P xa (xa. case xT,xaaT,xaT,xaaaT of P )T \mid (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P, F) (w. w = w)F | (P, _) dioE
                                               | (F, P) (w. w = w)F
                                               | (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                         P xb
                                            (w. xaaaa. case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                       P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xT,xaaT,deT,xaaaT of
                      P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E) of
        (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
        w)P
                                          | F xb
                                             (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                    P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xT,xaaT,deT,xaaaT of
    P xa (xa. case xT,xaaT,xaaT,xaaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
    w)F
                                         | _ dioE)
                                      (case case (daT, case xaT, xaaaT, xaaaT, deT of
    P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
                                                     daT, case xT, xaaT, xaaaT, deT of
     P xa (xa. case xT,xaaT,xaaaT,xaT of P \, )T | \, (x. dio)E) of
                                               (P , P) (w. w = w)P
                                               | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
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| (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                                         P xb
                                           (w. xaaaa. case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                       P x (x. case xaT,xaaT,xaaT,xT of P )T | _ (x. dio)E,
              xaaaaT,case xT,xaaT,xaaaT,deT of
         P \ xa \ (xa. \ case \ xT, xaaT, xaaaT, xaT \ of \ P \ )T \ | \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ _) \ \ dioE 
        | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
        w)P
                                         | F xb
                                            (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                   P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
           xaaaaT,case xT,xaaT,xaaaT,deT of
    | (_, b) dioE of
    w)F
                                    | _ dioE) of w)P
                 | F xb
                    (w. xaaa. case (case case (daT,case xaT,deT,xaaaT,xaaaT of
       P \times (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
 daT,case xT,deT,xaaT,xaaaT of P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
       | _ (x. dio)E) of
                                                (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                           P xb
                                             (w. xaaaa.
case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                  P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xT,deT,xaaT,xaaaT of
     P xa (xa. case xT,xaT,xaaT,xaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
     | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE
     | (_, b) dioE of
    w)P
                                           | F xb
                                              (w. xaaaa.
  case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                     P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xT,deT,xaaT,xaaaT of
                      P xa (xa. case xT,xaT,xaaT,xaaaT of P )T \mid (x. dio)E) of
       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) dioE
       | (_, b) dioE of
      w)F
                                           | _ dioE)
                                      (case case (daT, case xaT, xaaT, deT, xaaaT of
      P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
 daT,case xT,xaaT,deT,xaaaT of P xa (xa. case xT,xaaT,xaaT,xaaaT of P )T
      | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P, F) (w. w = w)F | (P, _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                           P xb
                                             (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
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P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
          xaaaaT,case xT,xaaT,deT,xaaaT of
     | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
    | (_, b) dioE of
    w)P
                                         I F xb
 case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                    P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,deT,xaaaT of
       P \ xa \ (xa. \ case \ xT,xaaT,xaaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ dioE
       | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
      | (_, b) dioE of
      w)F
                                        | _ dioE)
                                     (case case (daT,case xaT,xaaT,xaaT,deT of
      P \times (x. case xaT, xaaT, xaaT, xT of P)T | _ (x. dio)E,
 daT,case xT,xaaT,xaaaT,deT of P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
      | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
                                              | (F, P) (w. w = w)F
                                              | (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                         P xb
                                          (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                  P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
          xaaaaT,case xT,xaaT,xaaaT,deT of
     P \ xa \ (xa. \ case \ xT,xaaT,xaaaT,xaT \ of \ P \ )T \ | \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ dioE
     | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
    | (_, b) dioE of
    w)P
                                         | F xb
                                             (w. xaaaa.
 case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                     P x (x. case xaT,xaaaT,xaaaT,xT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,xaaaT,deT of
                    P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of
       (P , P) (w. w = w)P | (P , F) (w. w = w)F | (P , _) dioE
       | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
      | (_, b) dioE of
      w)F
                                        | _ dioE) of
                                   w)F
                                F
                | _ dioE of
                w)P
                                                  | F xb
  (w. xaa. case case (case case (daT, case xaT, deT, xaaT, daT of
                                           P x (x. case xaT,xT,xaaT,daT of P )T
                                           | _ (x. dio)E,
                                      daT,case xT,deT,xaaT,daT of
                                           P xa (xa. case xT,xaT,xaaT,daT of P )T
                                | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                | (_, b) dioE of
                             (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
        P \times (x. case xaT,xT,xaaT,daT of P)T | _ (x. dio)E,
xaaaT,case xT,deT,xaaT,daT of P xa (xa. case xT,xaT,xaaT,daT of P )T
```

```
| _ (x. dio)E) of
                                                                                                       (P, P) (w. w = w)P
                                                                                                      | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                                                                       | (_, b) dioE of
                                                                                                      w)P
                                                             | F xb
                                                                     (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
                      P \times (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
    xaaaT,case xT,deT,xaaT,daT of P xa (xa. case xT,xaT,xaaT,daT of P )T
                     | _ (x. dio)E) of
                                                                                                           (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                                                                           | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                                                                           | (_, b) dioE of
                                                                                                           w)F
                                                            | _ dioE)
                                                    (case case (daT,case xaT,xaaT,deT,daT of
                                                                                                  P x (x. case xaT,xaaT,xT,daT of P )T
                                                                                                 | _ (x. dio)E,
                                                                                     daT, case xT, xaaT, deT, daT of
                                                                                                P xa (xa. case xT,xaaT,xaT,daT of P )T
                                                                                                  | _ (x. dio)E) of
                                                                        (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                                                       | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                                       | (_, b) dioE of
                                                            P xb
                                                                 (w. xaaa. case case (xaaaT, case xaT, xaaT, deT, daT of
                 P x (x. case xaT,xaaT,xT,daT of P )T | _ (x. dio)E,
xaaaT,case xT,xaaT,deT,daT of P xa (xa. case xT,xaaT,xaT,daT of P )T
                 | _ (x. dio)E) of
                                                                                                       (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                                                                       | (F, P) (w. w = w)F
                                                                                                       | (F , F ) (w. w = w)F | (F , _) dioE
                                                                                                       | (_, b) dioE of
                                                                                                      w)P
                                                            | F xb
                                                                   (w. xaaa. case case (xaaaT,case xaT,xaaT,deT,daT of
                      P x (x. case xaT,xaaT,xT,daT of P )T | _ (x. dio)E,
    xaaaT,case xT,xaaT,deT,daT of P xa (xa. case xT,xaaT,xaT,daT of P )T
                     | _ (x. dio)E) of
                                                                                                            (P, P) (w. w = w)P
                                                                                                           | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                                                                           | (_, b) dioE of
                                                                                                          w)F
                                                            | _ dioE)
                                                    (case case (daT,case xaT,xaaT,daT,deT of
                                                                                                 P x (x. case xaT,xaaT,daT,xT of P )T
                                                                                                  | _ (x. dio)E,
                                                                                     daT, case xT, xaaT, daT, deT of
                                                                                                 P xa (xa. case xT,xaaT,daT,xaT of P )T
                                                                       (P, P) (w. w = w)F | (F, F) (w
                                                                       | (_, b) dioE of
                 (w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of P x (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaaT,daT,deT of P xa (xa. case xT,xaaT,daT,xaT of P )T
```

```
| _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                    | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                    | (_, b) dioE of
                                                    w)P
                               | F xb
                                   (w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of
           P x (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E,
   xaaaT,case xT,xaaT,daT,deT of P xa (xa. case xT,xaaT,daT,xaT of P )T
           | _ (x. dio)E) of
                                                       (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                      | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                      | (_, b) dioE of
                                                      w)F
                               | _ dioE) of
                       (w. xaaa. case (case case (daT,case xaT,deT,xaaT,xaaaT of
       P \times (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
 daT, case xT, deT, xaaT, xaaaT of P xa (xa. case xT, xaT, xaaT, xaaaT of P )T
       | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                    | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                    | (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b) dioE of
                                               P xb
                                                 (w. xaaaa.
case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                      P \times (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xT,deT,xaaT,xaaaT of
     P xa (xa. case xT,xaT,xaaT,xaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)P
                                               | F xb
                                                   (w. xaaaa.
  case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                       P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xT,deT,xaaT,xaaaT of
        P \ xa \ (xa. \ case \ xT,xaT,xaaT,xaaaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)P \ | \ (P \ , F \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ \ dioE 
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
       w)F
                                              | _ dioE)
                                          (case case (daT,case xaT,xaaT,deT,xaaaT of
       P \times (x. case xaT, xaaT, xT, xaaaT of P)T | _ (x. dio)E,
 daT, case xT, xaaT, deT, xaaaT of P xa (xa. case xT, xaaT, xaT, xaaaT of P )T
       | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                    \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                    | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                    | (_, b) dioE of
                                               P xb
                                                 (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                    P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,deT,xaaaT of
                     P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E) of
```

(P, P) (w. w = w)P | (P, F)  $(w. w = w)F | (P, _) dioE$ 

```
| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
    | (_, b) dioE of
    w)P
                                          | F xb
                                             (w. xaaaa.
 case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                     P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,deT,xaaaT of
      | (_, b) dioE of
      w)F
 F
                                         | _ dioE)
                                      (case case (daT,case xaT,xaaT,xaaaT,deT of
      P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
 daT,case xT,xaaT,xaaaT,deT of P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
      | _ (x. dio)E) of
                                               (P , P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE   | (F , P ) (w. w = w)F 
                                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                               | (_, b) dioE of
                                          P xb
                                            (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                   P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
           xaaaaT,case xT,xaaT,xaaaT,deT of
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
    | (_, b) dioE of
    w)P
                                          | F xb
                                             (w. xaaaa.
  case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                    P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,xaaaT,deT of
       P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
       \label{eq:continuous} | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
      | (_, b) dioE of
      w)F
                                         | _ dioE) of
                   | F xb
                      (w. xaaa. case (case case (daT,case xaT,deT,xaaT,xaaaT of
        P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
   {\tt daT,case} xT,{\tt deT,xaaT,xaaaT} of P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P, F) (w. w = w)F | (P, _) dioE
                                                 | (F, P) (w. w = w)F
                                                 | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
                                                 | (_, b) dioE of
                                            P xb
                                              (w. xaaaa.
 case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                     P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xT,deT,xaaT,xaaaT of
        P \ xa \ (xa. \ case \ xT,xaT,xaaT,xaaaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)P \ | \ (P \ , F \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ \ dioE 
       | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
      | (_, b) dioE of
 Ρ
      w)P
```

| F xb

```
xaaaa. case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                             P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
                    xaaaaT,case xT,deT,xaaT,xaaaT of
                             P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
                              | _ (x. dio)E) of
             | (_, b) dioE of
                                              | _ dioE)
                                          (case case (daT, case xaT, xaaT, deT, xaaaT of
         P \times (x. case xaT, xaaT, xT, xaaaT of P)T | _ (x. dio)E,
   daT,case xT,xaaT,deT,xaaaT of P xa (xa. case xT,xaaT,xaaT,xaaaT of P )T
         | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P, F) (w. w = w)F | (P, _) dioE
                                                    | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                    | (_, b) dioE of
                                               P xb
                                                 (w. xaaaa.
  case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                      P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xT,xaaT,deT,xaaaT of
       \label{eq:problem} P \ xa \ (xa. \ case \ xT, xaaT, xaT, xaaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ dioE
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
       w)P
                                               | F xb
                                                  (w.
xaaaa. case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                             P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
                    xaaaaT,case xT,xaaT,deT,xaaaT of
                              P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
                             | _ (x. dio)E) of
              (P \ , \ P \ ) \quad (w. \quad w \ = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \quad w \ = \ w)F \ | \ (P \ , \ \_) \quad dioE
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
             | (_, b) dioE of
             w)F
                                              | _ dioE)
                                          (case case (daT,case xaT,xaaT,xaaaT,deT of
         P x (x. case xaT, xaaT, xaaaT, xT of P )T | _ (x. dio)E,
   daT, case xT, xaaT, xaaaT, deT of P xa (xa. case xT, xaaT, xaaaT, xaT of P )T
         | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    (r, r) (w. w = w)r

| (P, F) (w. w = w)F | (P, _) dioE

| (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b) dioE of
                                               P xb
                                                 (w. xaaaa.
  case case (xaaaaT,case xaT,xaaaT,xaaaT,deT of
                       P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
              xaaaaT,case xT,xaaT,xaaaT,deT of
                      P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of
       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
       w)P
                                               | F xb
                                                   (w.
xaaaa. case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
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xaaaaT,case xT,xaaT,xaaaT,deT of

P x (x. case xaT,xaaT,xaaaT,xT of P )T | \_ (x. dio)E,

```
P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
F
     w)F
                              | _ dioE) of w)F
           | _ dioE of
          w)F
                                           | _ dioE) of
                                     Ρ
                                          w)P
                         | F xa
                             (w. xa. case (case case (daT, case xT, deT, daT, daT of
                        P xa (xa. case xT,xaT,daT,daT of P )T
                        | _ (x. dio)E,
                  daT, case xaT, deT, daT, daT of
                        P x (x. case xaT,xT,daT,daT of P )T
                        | _ (x. dio)E) of
            (P, P) (w. w = w)P | (P, F) (w. w = w)F
            | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
       P xb
         (w. xaa. case case (xaaT,case xT,deT,daT,daT of
                                      P xa (xa. case xT,xaT,daT,daT of P )T
                                      | _ (x. dio)E,
                               xaaT,case xaT,deT,daT,daT of
                                     P x (x. case xaT,xT,daT,daT of P )T
                         | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                         | (_, b) dioE of
                         w)P
       I F xb
           (w. xaa. case case (xaaT,case xT,deT,daT,daT of
                                       P xa (xa. case xT,xaT,daT,daT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case xaT,deT,daT,daT of
                                       P x (x. case xaT,xT,daT,daT of P )T
                                        | _ (x. dio)E) of
                           (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                            | (F, F) (w. w = w)F | (F, _) dioE
                           | (_, b) dioE of
                           w)F
       | _ dioE)
   (case case (daT,case xT,daT,deT,daT of
                        P xa (xa. case xT,daT,xaT,daT of P )T
                        | _ (x. dio)E,
                  daT, case xaT, daT, deT, daT of
                        P x (x. case xaT,daT,xT,daT of P )T
                        | _ (x. dio)E) of
            (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
            | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
       P xb
         (w. xaa. case case (xaaT, case xT, daT, deT, daT of
                                      P xa (xa. case xT,daT,xaT,daT of P )T
                                       | _ (x. dio)E,
                               xaaT,case xaT,daT,deT,daT of
                                      P x (x. case xaT,daT,xT,daT of P )T
                                      | _ (x. dio)E) of
                         (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                         | \ (P \ , \ \_) \ \ dioE \ | \ (F \ , \ P \ ) \ \ (w. \ w = \ w)F
                         | (F, F) (w. w = w)F | (F, _) dioE
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w)P
               I F xb
                   (w. xaa. case case (xaaT,case xT,daT,deT,daT of
                                                  P xa (xa. case xT,daT,xaT,daT of P )T
                                                   | _ (x. dio)E,
                                           xaaT,case xaT,daT,deT,daT of
                                                  P x (x. case xaT,daT,xT,daT of P )T
                                                  | _ (x. dio)E) of
                                     (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                                     \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                     | (_, b) dioE of
                                     w)F
               | _ dioE)
           (case case (daT,case xT,daT,daT,deT of
                                 P xa (xa. case xT,daT,daT,xaT of P )T
                                 | _ (x. dio)E,
                           daT, case xaT, daT, daT, deT of
                                 P x (x. case xaT,daT,daT,xT of P )T
                                 | _ (x. dio)E) of
                     (P, P) (w. w = w)P | (P, F) (w. w = w)F
                    | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
              P xb
                 (w. xaa. case case (xaaT,case xT,daT,daT,deT of
                                                P xa (xa. case xT,daT,daT,xaT of P )T
                                                 | _ (x. dio)E,
                                         xaaT,case xaT,daT,daT,deT of
                                                P x (x. case xaT,daT,daT,xT of P )T
                                                | _ (x. dio)E) of
                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                   \mid (P , _) dioE \mid (F , P ) (w. w = w)F
                                   \label{eq:continuous} | \ (\texttt{F} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} = \ \texttt{w}) \texttt{F} \ | \ (\texttt{F} \ , \ \_) \quad \texttt{dioE}
                                   | (_, b) dioE of
                                   w)P
               | F xb
                   (w. xaa. case case (xaaT,case xT,daT,daT,deT of
                                                   P xa (xa. case xT,daT,daT,xaT of P )T
                                                   | _ (x. dio)E,
                                           xaaT,case xaT,daT,daT,deT of
                                                  P x (x. case xaT,daT,daT,xT of P )T
                                                   | _ (x. dio)E) of
                                     (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                     | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                    | (_, b) dioE of
                                    w)F
               | _ dioE) of
       (w. xaa. case (case case (daT, case xT, deT, daT, xaaT of
                                                P xa (xa. case xT,xaT,daT,xaaT of P )T
                                               | _ (x. dio)E,
                                         daT,case xaT,deT,daT,xaaT of
                                               P x (x. case xaT,xT,daT,xaaT of P )T
                                               | _ (x. dio)E) of
                                   (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                   | (_, b) dioE of
                             P xb
                               (w. xaaa. case case (xaaaT,case xT,deT,daT,xaaT of
        P xa (xa. case xT,xaT,daT,xaaT of P )T \mid (x. dio)E,
xaaaT,case xaT,deT,daT,xaaT of P x (x. case xaT,xT,daT,xaaT of P
        | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
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| (\_, b) dioE of

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| (P, F) (w. w = w)F | (P, _) dioE
                                               | (F, P) (w. w = w)F
                                               \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                               | (_, b) dioE of
                                               w)P
                            | F xb
                                (w. xaaa. case case (xaaaT, case xT, deT, daT, xaaT of
          P xa (xa. case xT,xaT,daT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xaT,deT,daT,xaaT of P x (x. case xaT,xT,daT,xaaT of P
          | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)F
                           | _ dioE)
                       (case case (daT,case xT,daT,deT,xaaT of
                                            P xa (xa. case xT,daT,xaT,xaaT of P )T
                                             | _ (x. dio)E,
                                       daT, case xaT, daT, deT, xaaT of
                                            P x (x. case xaT,daT,xT,xaaT of P )T
                                 | _ (x. dio)E) of
(P,P) (w. w = w)P | (P,F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                 | (_, b) dioE of
                           P xb
                             (w. xaaa. case case (xaaaT, case xT, daT, deT, xaaT of
        P xa (xa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xaT,daT,deT,xaaT of P x (x. case xaT,daT,xT,xaaT of P
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                               | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                               | (_, b) dioE of
                                          Р
                                               w)P
                            | F xb
                                (w. xaaa. case case (xaaaT,case xT,daT,deT,xaaT of
         P xa (xa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xaT,daT,deT,xaaT of P x (x. case xaT,daT,xT,xaaT of P
         | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                 | (F, F) (w. w = w)F | (F, _) dioE
                                                 | (_, b) dioE of
                                            F
                                                 w)F
                           | _ dioE)
                       (case case (daT,case xT,daT,xaaT,deT of
                                             P xa (xa. case xT,daT,xaaT,xaT of P )T
                                             | _ (x. dio)E,
                                       daT,case xaT,daT,xaaT,deT of
                                            P x (x. case xaT,daT,xaaT,xT of P )T
                                             | _ (x. dio)E) of
                                 (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
                           P xb
                             (w. xaaa. case case (xaaaT,case xT,daT,xaaT,deT of
        P xa (xa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
xaaaT,case xaT,daT,xaaT,deT of P x (x. case xaT,daT,xaaT,xT of P
        | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
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| (P, F) (w. w = w)F | (P, _) dioE
                                                | (F, P) (w. w = w)F
                                                | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
                                                | (_, b) dioE of
                                                w)P
                           | F xb
                                (w. xaaa. case case (xaaaT, case xT, daT, xaaT, deT of
        P xa (xa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
xaaaT,case xaT,daT,xaaT,deT of P x (x. case xaT,daT,xaaT,xT of P
        | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                           | _ dioE) of
   | F xb
       (w. xaa. case (case case (daT, case xT, deT, daT, xaaT of
                                                P xa (xa. case xT,xaT,daT,xaaT of P )T
                                                | _ (x. dio)E,
                                          daT, case xaT, deT, daT, xaaT of
                                                P x (x. case xaT,xT,daT,xaaT of P )T
                                                | _ (x. dio)E) of
                                   (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                                   | (F, F) (w. w = w)F | (F, _) dioE
                                   | (_, b) dioE of
                             P xb
                                (w. xaaa. case case (xaaaT, case xT, deT, daT, xaaT of
        P xa (xa. case xT,xaT,daT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xaT,deT,daT,xaaT of P x (x. case xaT,xT,daT,xaaT of P
        | _ (x. dio)E) of
                                                  (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)P
                              | F xb
                                  (w. xaaa. case case (xaaaT, case xT, deT, daT, xaaT of
          P xa (xa. case xT,xaT,daT,xaaT of P )T \mid (x. dio)E,
  xaaaT,case xaT,deT,daT,xaaT of P x (x. case xaT,xT,daT,xaaT of P
          | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                    | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b) dioE of
                                                    w)F
                             | _ dioE)
                         (case case (daT,case xT,daT,deT,xaaT of
                                                P xa (xa. case xT,daT,xaT,xaaT of P )T
                                                | _ (x. dio)E,
                                          daT, case xaT, daT, deT, xaaT of
                                                P x (x. case xaT,daT,xT,xaaT of P )T
                                   | (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                                   | (_, b) dioE of
                                (w. xaaa. case case (xaaaT,case xT,daT,deT,xaaT of
        P xa (xa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xaT,daT,deT,xaaT of P x (x. case xaT,daT,xT,xaaT of P )T
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| _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)P
                            | F xb
                                 (w. xaaa. case case (xaaaT, case xT, daT, deT, xaaT of
          P xa (xa. case xT,daT,xaT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xaT,daT,deT,xaaT of P x (x. case xaT,daT,xT,xaaT of P
          | _ (x. dio)E) of
                                                   (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                  | (F , P ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                                  w)F
                            | _ dioE)
                        (case case (daT,case xT,daT,xaaT,deT of
                                              P xa (xa. case xT,daT,xaaT,xaT of P )T
                                              | _ (x. dio)E,
                                        daT, case xaT, daT, xaaT, deT of
                                              P x (x. case xaT,daT,xaaT,xT of P )T
                                              | _ (x. dio)E) of
                                  (P , P ) (w. w = w)P | (P , F ) (w. w = w)F
                                  | (P, \_)  dioE | (F, P)  (w. w = w)F
                                  \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                 | (_, b) dioE of
                            P xb
                               (w. xaaa. case case (xaaaT, case xT, daT, xaaT, deT of
        P xa (xa. case xT,daT,xaaT,xaT of P )T | _ (x. dio)E,
xaaaT,case xaT,daT,xaaT,deT of P x (x. case xaT,daT,xaaT,xT of P
        | _ (x. dio)E) of
                                                 (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                 | (_, b) dioE of
                                                w)P
                            | F xb
                                (w. xaaa. case case (xaaaT, case xT, daT, xaaT, deT of
          P xa (xa. case xT,daT,xaaT,xaT of P )T \mid _ (x. dio)E,
  xaaaT,case xaT,daT,xaaT,deT of P x (x. case xaT,daT,xaaT,xT of P )T
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                     | _ dioE) of
                                                  w)F
  | _ dioE of
(w. xaa. case case (case case (daT,case xT,deT,xaaT,daT of
                                            P xa (xa. case xT,xaT,xaaT,daT of P )T
                                            | _ (x. dio)E,
                                      daT, case xaT, deT, xaaT, daT of
                                            P x (x. case xaT,xT,xaaT,daT of P )T
                                | _ (x. dio)E) of
(P,P) (w. w = w)P | (P,F) (w. w = w)F
                               | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                | (_, b) dioE of
```

```
(w. xaaa. case case (xaaaT, case xT, deT, xaaT, daT of
        P xa (xa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
xaaaT,case xaT,deT,xaaT,daT of P x (x. case xaT,xT,xaaT,daT of P
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)P
                             | F xb
                               (w. xaaa. case case (xaaaT,case xT,deT,xaaT,daT of
          P xa (xa. case xT,xaT,xaaT,daT of P )T | _ (x. dio)E,
  xaaaT,case xaT,deT,xaaT,daT of P x (x. case xaT,xT,xaaT,daT of P
          | _ (x. dio)E) of
                                                   (P , P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
                                                   | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                                   w)F
                            | _ dioE)
                        (case case (daT,case xT,xaaT,deT,daT of
                                              P xa (xa. case xT,xaaT,xaT,daT of P )T
                                              | _ (x. dio)E,
                                        daT, case xaT, xaaT, deT, daT of
                                              P x (x. case xaT,xaaT,xT,daT of P )T
                                  | _ (x. dio)E) of
(P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
                                  \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                  | (_, b) dioE of
                              (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
        P xa (xa. case xT,xaaT,xaT,daT of P )T \mid (x. dio)E,
xaaaT,case xaT,xaaT,deT,daT of P x (x. case xaT,xaaT,xT,daT of P
       | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)P
                             | F xb
                                 (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
          P xa (xa. case xT,xaaT,xaT,daT of P )T | _ (x. dio)E,
  xaaaT,case xaT,xaaT,deT,daT of P x (x. case xaT,xaaT,xT,daT of P
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
                                                   | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                   | (_, b) dioE of
                                             F
                                                   w)F
                            | _ dioE)
                        (case case (daT,case xT,xaaT,daT,deT of
                                              P xa (xa. case xT,xaaT,daT,xaT of P )T
                                              | _ (x. dio)E,
                                        daT,case xaT,xaaT,daT,deT of
                                              P x (x. case xaT,xaaT,daT,xT of P )T
                                  | _ (x. dio)E) of
(P,P) (w. w = w)P | (P,F) (w. w = w)F
                                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                  | (_, b) dioE of
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(w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
        P xa (xa. case xT,xaaT,daT,xaT of P )T \mid _ (x. dio)E,
xaaaT,case xaT,xaaT,daT,deT of P x (x. case xaT,xaaT,daT,xT of P
        | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
                                             | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                             | (_, b) dioE of
                                             w)P
                           | F xb
                             (w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
          P xa (xa. case xT,xaaT,daT,xaT of P )T | _ (x. dio)E,
  xaaaT,case xaT,xaaT,daT,deT of P x (x. case xaT,xaaT,daT,xT of P
          | _ (x. dio)E) of
                                               (P, P) (w. w = w)P
                                               | (P, F) (w. w = w)F | (P, _) dioE
                                               | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                               | (_, b) dioE of
                                               w)F
                           | _ dioE) of
                  P xb
                   (w. xaaa. case (case case (daT,case xT,deT,xaaT,xaaaT of
      P xa (xa. case xT,xaT,xaaT,xaaaT of P )T \mid _ (x. dio)E,
 daT,case xaT,deT,xaaT,xaaaT of P x (x. case xaT,xT,xaaT,xaaaT of P )T
      | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                             | (F, F) (w. w = w)F | (F, _) dioE
                                             | (_, b) dioE of
                                        P xb
                                           (w. xaaaa.
case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                  P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
          xaaaaT,case xaT,deT,xaaT,xaaaT of
                 P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
    (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
    | (_, b) dioE of
    w)P
                                         l F xb
                                            (w. xaaaa.
 case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                     P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xaT,deT,xaaT,xaaaT of
      | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
      | (_, b) dioE of
      w)F
                                        | _ dioE)
                                    (case case (daT,case xT,xaaT,deT,xaaaT of
      P xa (xa. case xT,xaaT,xaT,xaaaT of P )T \mid (x. dio)E,
 daT, case xaT, xaaT, deT, xaaaT of P x (x. case xaT, xaaT, xT, xaaaT of P
      | _ (x. dio)E) of
                                             (P, P) (w. w = w)P
                                             | (P , F ) (w. w = w)F | (P , _) dioE
                                             | (F, P) (w. w = w)F
                                             \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                             | (_, b) dioE of
                                        P xb
                                           (w. xaaaa.
case case (xaaaaT,case xT,xaaT,deT,xaaaT of
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P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | \_ (x. dio)E,

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xaaaaT,case xaT,xaaT,deT,xaaaT of
     \label{eq:problem} P\ x\ (x.\ case\ xaT,xaaT,xT,xaaaT\ of\ P\ )T\ |\ \_\ (x.\ dio)E)\ of\ (P\ ,\ P\ )\ (w.\ w=\ w)F\ |\ (P\ ,\ \_)\ dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
Þ
     w)P
                                             | F xb
                                                 (w. xaaaa.
  case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                      P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xaT,xaaT,deT,xaaaT of
       P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
       w)F
                                            | _ dioE)
                                        (case case (daT,case xT,xaaT,xaaaT,deT of
       P xa (xa. case xT,xaaT,xaaaT,xaT of P \, )T | \, (x. dio)E,
 daT,case xaT,xaaT,xaaaT,deT of P x (x. case xaT,xaaT,xaaaT,xT of P )T
       | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  | (P, F) (w. w = w)F | (P, _) dioE
                                                  | (F, P) (w. w = w)F
                                                  \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                  | (_, b) dioE of
                                             P xb
                                               (w. xaaaa.
case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                    P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,xaaT,xaaaT,deT of
     P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)P
                                             | F xb
                                                 (w. xaaaa.
  case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                      P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
              xaaaaT,case xaT,xaaT,xaaaT,deT of
       | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
       | (_, b) dioE of
       w)F
                                           | _ dioE) of
                    | F xb
                       (w. xaaa. case (case case (daT,case xT,deT,xaaT,xaaaT of
         P xa (xa. case xT,xaT,xaaT,xaaaT of P )T \mid _ (x. dio)E,
   daT, case xaT, deT, xaaT, xaaaT of P x (x. case xaT, xT, xaaT, xaaaT of P )T
         | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                    | (F, P) (w. w = w)F
                                                    | (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b) dioE of
                                              P xb
                                                 (w. xaaaa.
  case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                       P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
              xaaaaT,case xaT,deT,xaaT,xaaaT of
                       P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E) of
       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
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| (_, b) dioE of
      w)P
                                         | F xb
xaaaa. case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                          P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
                          | _ (x. dio)E,
                  xaaaaT,case xaT,deT,xaaT,xaaaT of
                          P x (x. case xaT,xT,xaaT,xaaaT of P )T
            | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
            | (_, b) dioE of
            w)F
                                         | _ dioE)
                                      (case case (daT, case xT, xaaT, deT, xaaaT of
        P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
   daT, case xaT, xaaT, deT, xaaaT of P x (x. case xaT, xaaT, xT, xaaaT of P
        | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                              | (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
                                         P xb
                                           (w. xaaaa.
  case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                   P xa (xa. case xT,xaaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT.case xaT.xaaT.deT.xaaaT of
                    P \times (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of
       (P\ ,\ P\ )\quad (w.\ w\ =\ w)P\ |\ (P\ ,\ F\ )\quad (w.\ w\ =\ w)F\ |\ (P\ ,\ \_)\quad dioE
      | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
      | (_, b) dioE of
      w)P
                                         l F xb
xaaaa. case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                          P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
                          | _ (x. dio)E,
                  xaaaaT,case xaT,xaaT,deT,xaaaT of
                          P x (x. case xaT,xaaT,xT,xaaaT of P )T
            | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
            | (_, b) dioE of
       F
            w)F
                                         | _ dioE)
                                     (case case (daT,case xT,xaaT,xaaaT,deT of
        P xa (xa. case xT,xaaT,xaaaT,xaT of P )T \mid (x. dio)E,
   daT, case xaT, xaaaT, xaaaT, deT of P x (x. case xaT, xaaaT, xaaaT, xT of P
        | _{-} (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                              | (F, P) (w. w = w)F
                                              | (F , F ) (w. w = w)F | (F , _) dioE
| (_, b) dioE of
                                         P xb
                                           (w. xaaaa.
  case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                    P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
            xaaaaT,case xaT,xaaT,xaaaT,deT of
                   P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
       (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
      \label{eq:continuous} | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
      | (_, b) dioE of
      w)P
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| F xb
                                                  (w.
xaaaa. case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                             P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
                             | _ (x. dio)E,
                    xaaaaT,case xaT,xaaT,xaaaT,deT of
                             P x (x. case xaT,xaaT,xaaaT,xT of P )T
                             | _ (x. dio)E) of
              (P , P) (w. w = w)P | (P , F) (w. w = w)F | (P , _) dioE
             | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
             | (_, b) dioE of
             w)F
                                    \mid _ dioE) of F w)F
                         dioE of
                    1_
                    w)P
 | F xb
     (w. xaa. case case (case case (daT,case xT,deT,xaaT,daT of
                                                 P xa (xa. case xT,xaT,xaaT,daT of P )T
                                                 | _ (x. dio)E,
                                           daT, case xaT, deT, xaaT, daT of
                                                 P x (x. case xaT,xT,xaaT,daT of P )T
                                     | _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                                     | (_, b) dioE of
                               P xb
                                 (w. xaaa. case case (xaaaT, case xT, deT, xaaT, daT of
           P xa (xa. case xT,xaT,xaaT,daT of P )T | \_ (x. dio)E,
   xaaaT,case xaT,deT,xaaT,daT of P x (x. case xaT,xT,xaaT,daT of P
           | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                   | (_, b) dioE of
                                                   w)P
                                | F xb
                                    (w. xaaa. case case (xaaaT,case xT,deT,xaaT,daT of
             P xa (xa. case xT,xaT,xaaT,daT of P )T \mid _ (x. dio)E,
     xaaaT,case xaT,deT,xaaT,daT of P x (x. case xaT,xT,xaaT,daT of P
             | _ (x. dio)E) of
                                                      (P, P) (w. w = w)P
                                                     | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                      | (F, F) (w. w = w)F | (F, _) dioE
                                                     | (_, b) dioE of
                                                F
                                                      w)F
                               | _ dioE)
                           (case case (daT,case xT,xaaT,deT,daT of
                                                 P xa (xa. case xT,xaaT,xaT,daT of P )T
                                                 | _ (x. dio)E,
                                           daT, case xaT, xaaT, deT, daT of
                                                 P x (x. case xaT,xaaT,xT,daT of P )T
                                                 | _ (x. dio)E) of
                                     (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                     | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                     | (_, b) dioE of
                               P xb
                                 (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
           P xa (xa. case xT,xaaT,xaT,daT of P )T | _ (x. dio)E,
   xaaaT,case xaT,xaaT,deT,daT of P x (x. case xaT,xaaT,xT,daT of P
           | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
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| (P, F) (w. w = w)F | (P, _) dioE
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)P
                              | F xb
                                  (w. xaaa. case case (xaaaT,case xT,xaaT,deT,daT of
           P xa (xa. case xT,xaaT,xaT,daT of P )T | \_ (x. dio)E,
   xaaaT,case xaT,xaaT,deT,daT of P x (x. case xaT,xaaT,xT,daT of P
           | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                    \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                    | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                    | (_, b) dioE of
                                               F
                                                    w)F
                             | _ dioE)
                         (case case (daT,case xT,xaaT,daT,deT of
                                               P xa (xa. case xT,xaaT,daT,xaT of P )T
                                                | _ (x. dio)E,
                                          daT,case xaT,xaaT,daT,deT of
                                                P x (x. case xaT, xaaT, daT, xT of P ) T
                                   | (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE
                                   | (_, b) dioE of
                              P xb
                               (w. xaaa. case case (xaaaT, case xT, xaaT, daT, deT of
         P xa (xa. case xT,xaaT,daT,xaT of P )T | \_ (x. dio)E,
xaaaT,case xaT,xaaT,daT,deT of P x (x. case xaT,xaaT,daT,xT of P
         | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)P
                              | F xb
                                  (w. xaaa. case case (xaaaT,case xT,xaaT,daT,deT of
           P xa (xa. case xT,xaaT,daT,xaT of P )T \mid _ (x. dio)E,
   xaaaT,case xaT,xaaT,daT,deT of P x (x. case xaT,xaaT,daT,xT of P
           | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                    | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                    | (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b) dioE of
                                               F
                                                    w)F
                              | _ dioE) of
                    P xb
                      (w. xaaa. case (case case (daT, case xT, deT, xaaT, xaaaT of
       P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
daT, case xaT, deT, xaaT, xaaaT of P x (x. case xaT, xT, xaaT, xaaaT of P
       | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                             P xb
                                               (w. xaaaa.
case case (xaaaaT, case xT, deT, xaaaT, xaaaT of
                     P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E,
           xaaaaT,case xaT,deT,xaaT,xaaaT of
```

P x (x. case xaT,xT,xaaT,xaaaT of P )T | \_ (x. dio)E) of

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(P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
       | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
       | (_, b) dioE of
       w)P
                                               I F xb
                                                  (w.
xaaaa. case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                             P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
                             | _ (x. dio)E,
                    xaaaaT,case xaT,deT,xaaT,xaaaT of
                             P x (x. case xaT,xT,xaaT,xaaaT of P )T
                             | _ (x. dio)E) of
              (P \ , \ P \ ) \quad (w. \ w = \ w)P \ | \ (P \ , \ F \ ) \quad (w. \ w = \ w)F \ | \ (P \ , \ \_) \quad dioE
             | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
             | (_, b) dioE of
                                              | _ dioE)
                                          (case case (daT,case xT,xaaT,deT,xaaaT of
         P xa (xa. case xT,xaaT,xa<br/>T,xaaaT of P )<br/>T | _ (x. dio)E,
   daT,case xaT,xaaT,deT,xaaaT of P x (x. case xaT,xaaT,xT,xaaaT of P )T
         | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                    | (F, F) (w. w = w)F | (F, _) dioE
                                                    | (_, b) dioE of
                                              P xb
                                                 (w. xaaaa.
  case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                      P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xaT,xaaT,deT,xaaaT of
       P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
       w)P
                                               I F xb
                                                  (w.
xaaaa. case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                             P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
                             | _ (x. dio)E,
                    xaaaaT,case xaT,xaaT,deT,xaaaT of
                             P x (x. case xaT,xaaT,xT,xaaaT of P )T
                             | _ (x. dio)E) of
             (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, _) dioE
             | (_, b) dioE of
             w)F
                                              | _ dioE)
                                          (case case (daT,case xT,xaaT,xaaaT,deT of
         P xa (xa. case xT,xaaT,xaaaT,xaT of P \, )T | \, (x. dio)E,
   daT,case xaT,xaaT,xaaaT,deT of P x (x. case xaT,xaaaT,xaaaT,xT of P )T
         | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P, F) (w. w = w)F | (P, _) dioE
                                                    | (F, P) (w. w = w)F
                                                    | (F, F) (w. w = w)F | (F, _) dioE
                                                   | (_, b) dioE of
                                              P xb
                                                 (w. xaaaa.
  case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                      P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | \_ (x. dio)E,
             xaaaaT,case xaT,xaaT,xaaaT,deT of
                      P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E) of
       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
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| (_, b) dioE of
      w)P
                                          | F xb
xaaaa. case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                          P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
                           | _ (x. dio)E,
                  xaaaaT,case xaT,xaaT,xaaaT,deT of
                          P x (x. case xaT,xaaT,xaaaT,xT of P )T
            | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
            | (_, b) dioE of
            w)F
                                      | _ dioE) of w)P
                    | F xb
                      (w. xaaa. case (case case (daT, case xT, deT, xaaaT, xaaaT of
          P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | \_ (x. dio)E,
    daT,case xaT,deT,xaaT,xaaaT of P x (x. case xaT,xT,xaaT,xaaaT of P )T
          | _ (x. dio)E) of
                                                 (P , P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                            P xb
                                              (w.
xaaaa. case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                          P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
                           | _ (x. dio)E,
                  xaaaaT,case xaT,deT,xaaT,xaaaT of
                          P x (x. case xaT,xT,xaaT,xaaaT of P )T
            | (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE

| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
            | (_, b) dioE of
       Р
            w)P
                                               (w.
  xaaaa. case case (xaaaaT,case xT,deT,xaaT,xaaaT of
                            P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
                            | _ (x. dio)E,
                    xaaaaT,case xaT,deT,xaaT,xaaaT of
                            P x (x. case xaT,xT,xaaT,xaaaT of P )T
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
              w)F
                                            | _ dioE)
                                        (case case (daT,case xT,xaaT,deT,xaaaT of
          P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E,
    daT, case xaT, xaaT, deT, xaaaT of P x (x. case xaT, xaaT, xT, xaaaT of P )T
          | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                 | (_, b) dioE of
                                            P xb
                                              (w.
xaaaa. case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                          P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
                           | _ (x. dio)E,
                  xaaaaT,case xaT,xaaT,deT,xaaaT of
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P x (x. case xaT,xaaT,xT,xaaaT of P )T
             | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
            | (_, b) dioE of
       Þ
            w)P
                                             | F xb
                                                (w.
  xaaaa. case case (xaaaaT,case xT,xaaT,deT,xaaaT of
                            P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
                             | _ (x. dio)E,
                    xaaaaT,case xaT,xaaT,deT,xaaaT of
                             P \times (x. case xaT,xaaT,xT,xaaaT of P)T
              | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
              | (_, b) dioE of
              w)F
                                             | _ dioE)
                                         (case case (daT,case xT,xaaT,xaaaT,deT of
          P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E,
     daT, case xaT, xaaT, xaaaT, deT of P x (x. case xaT, xaaaT, xaaaT, xT of P )T
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                             P xb
                                               (w.
xaaaa. case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                           P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
                           | _ (x. dio)E,
                  xaaaaT,case xaT,xaaT,xaaaT,deT of
                           P x (x. case xaT,xaaT,xaaaT,xT of P )T
                           | _ (x. dio)E) of
            (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
            | (_, b) dioE of
            w)P
                                             | F xb
                                                (w.
  xaaaa. case case (xaaaaT,case xT,xaaT,xaaaT,deT of
                             P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
                             | _ (x. dio)E,
                    xaaaaT,case xaT,xaaT,xaaaT,deT of
                            P x (x. case xaT,xaaT,xaaaT,xT of P )T
                             | _ (x. dio)E) of
              (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
              | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
              | (_, b) dioE of
              w)F
                                            | _ dioE) of
                                    F w)F
                    | _ dioE of
                    w)F
 | _ dioE)
(case case (case case (daT, case xaT, deT, daT, daT of
                              P x (x. case xaT,xT,daT,daT of P )T | _ (x. dio)E,
                         daT, case xT, deT, daT, daT of
                              P xa (xa. case xT,xaT,daT,daT of P )T
                               | _ (x. dio)E) of
                    (P, P) (w. w = w)P | (P, F) (w. w = w)F
                   | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
```

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(w. xaa. case case (xaaT,case xaT,deT,daT,daT of
                                     P x (x. case xaT,xT,daT,daT of P )T
                                      | _ (x. dio)E,
                              xaaT,case xT,deT,daT,daT of
                                     P xa (xa. case xT,xaT,daT,daT of P )T
                                     | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                        \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                        | (_, b) dioE of
                       w)P
    | F xb
        (w. xaa. case case (xaaT,case xaT,deT,daT,daT of
                                        P x (x. case xaT,xT,daT,daT of P )T
                                        | _ (x. dio)E,
                                xaaT,case xT,deT,daT,daT of
                                       P xa (xa. case xT,xaT,daT,daT of P )T
                                        | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F
                           | \ (P \ , \ \_) \ dioE \ | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \\ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE 
                         | (_, b) dioE of
                          w)F
    | _ dioE)
(case case (daT,case xaT,daT,deT,daT of
                      P x (x. case xaT,daT,xT,daT of P )T | _ (x. dio)E,
                daT,case xT,daT,deT,daT of
                      P xa (xa. case xT,daT,xaT,daT of P )T
         | (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F

| (P, _) dioE | (F, P) (w. w = w)F

| (F, F) (w. w = w)F | (F, _) dioE | (_, b) dioE of
   P xb
      (w. xaa. case case (xaaT,case xaT,daT,deT,daT of
                                      P x (x. case xaT,daT,xT,daT of P )T
                                      | _ (x. dio)E,
                              xaaT,case xT,daT,deT,daT of
                                     P xa (xa. case xT,daT,xaT,daT of P )T
                                      | _ (x. dio)E) of
                        (P, P) (w. w = w)P | (P, F) (w. w = w)F
                        | (P, _) dioE | (F, P) (w. w = w)F
                        \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                        | (_, b) dioE of
                       w)P
    | F xb
        (w. xaa. case case (xaaT,case xaT,daT,deT,daT of
                                        P x (x. case xaT,daT,xT,daT of P )T
                                        | _ (x. dio)E,
                                 xaaT,case xT,daT,deT,daT of
                                       P xa (xa. case xT,daT,xaT,daT of P )T
                                        | _ (x. dio)E) of
                          (P, P) (w. w = w)P | (P, F) (w. w = w)F
                         | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                          | (_, b) dioE of
                         w)F
    | _ dioE)
(case case (daT, case xaT, daT, daT, deT of
                      P x (x. case xaT,daT,daT,xT of P )T | _ (x. dio)E,
                daT, case xT, daT, daT, deT of
                      P xa (xa. case xT,daT,daT,xaT of P )T
                      | _ (x. dio)E) of
         (P, P) (w. w = w)P | (P, F) (w. w = w)F
         | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE | (_, b) dioE of
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(w. xaa. case case (xaaT,case xaT,daT,daT,deT of
                                               P x (x. case xaT,daT,daT,xT of P )T
                                               | _ (x. dio)E,
                                        xaaT,case xT,daT,daT,deT of
                                              P xa (xa. case xT,daT,daT,xaT of P )T
                                              | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F
                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                 | (_, b) dioE of
                                 w)P
              | F xb
                  (w. xaa. case case (xaaT,case xaT,daT,daT,deT of
                                                 P x (x. case xaT,daT,xT of P )T
                                                 | _ (x. dio)E,
                                          xaaT,case xT,daT,daT,deT of
                                                P xa (xa. case xT,daT,daT,xaT of P )T
                                                 | _ (x. dio)E) of
                                    (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                    | \ (P \ , \ \_) \ dioE \ | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \\ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE 
                                   | (_, b) dioE of
                                   w)F
              | _ dioE) of
    P xb
       (w. xaa. case (case case (daT, case xaT, deT, daT, xaaT of
                                             P x (x. case xaT,xT,daT,xaaT of P )T
                                             | _ (x. dio)E,
                                        daT,case xT,deT,daT,xaaT of
                                             P xa (xa. case xT,xaT,daT,xaaT of P )T
                                              | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 \mid \ (\texttt{F} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} \ \texttt{=} \ \ \texttt{w}) \texttt{F} \ \mid \ (\texttt{F} \ , \ \_) \quad \texttt{dioE}
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT,case xaT,deT,daT,xaaT of
        P x (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,daT,xaaT of P xa (xa. case xT,xaT,daT,xaaT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                | (_, b) dioE of
                                                w)P
                            | F xb
                               (w. xaaa. case case (xaaaT,case xaT,deT,daT,xaaT of
          P \times (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xT,deT,daT,xaaT of P xa (xa. case xT,xaT,daT,xaaT of P )T
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                  | (F, F) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                             F
                                                  w)F
                            | _ dioE)
                        (case case (daT,case xaT,daT,deT,xaaT of
                                              P \times (x. case xaT,daT,xT,xaaT of P)T
                                             | _ (x. dio)E,
                                        daT,case xT,daT,deT,xaaT of
                                             P xa (xa. case xT,daT,xaT,xaaT of P )T
                                 | (P, _) dioE | (F, P) (w. w = w)F
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| (F, F) (w. w = w)F | (F, _) dioE
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT,case xaT,daT,deT,xaaT of
        P \times (x. case xaT,daT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,daT,deT,xaaT of P xa (xa. case xT,daT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)P
                            I F xb
                                (w. xaaa. case case (xaaaT, case xaT, daT, deT, xaaT of
          P x (x. case xaT,daT,xT,xaaT of P )T | \_ (x. dio)E,
  xaaaT,case xT,daT,deT,xaaT of P xa (xa. case xT,daT,xaT,xaaT of P
         | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                  | (F, P) (w. w = w)F
                                                  \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                            | _ dioE)
                        (case case (daT,case xaT,daT,xaaT,deT of
                                             P x (x. case xaT,daT,xaaT,xT of P )T
                                             | _ (x. dio)E,
                                       daT,case xT,daT,xaaT,deT of
                                             P xa (xa. case xT,daT,xaaT,xaT of P )T
                                              | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                 \mid \ (\texttt{F} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} \ \texttt{=} \ \ \texttt{w}) \texttt{F} \ \mid \ (\texttt{F} \ , \ \_) \quad \texttt{dioE}
                                 | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT,case xaT,daT,xaaT,deT of
        P x (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,daT,xaaT,deT of P xa (xa. case xT,daT,xaaT,xaT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                | (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                                w)P
                            | F xb
                               (w. xaaa. case case (xaaaT,case xaT,daT,xaaT,deT of
          P \times (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E,
  xaaaT,case xT,daT,xaaT,deT of P xa (xa. case xT,daT,xaaT,xaT of P
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                             F
                                                  w)F
                           | _ dioE) of
     l F xb
         (w. xaa. case (case case (daT, case xaT, deT, daT, xaaT of
                                                P x (x. case xaT,xT,daT,xaaT of P )T
                                                | _ (x. dio)E,
                                          daT, case xT, deT, daT, xaaT of
                                                P xa (xa. case xT,xaT,daT,xaaT of P )T
                                                | _ (x. dio)E) of
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(P, P) (w. w = w)P | (P, F) (w. w = w)F
                                  | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                  | (_, b) dioE of
                             P xb
                               (w. xaaa. case case (xaaaT,case xaT,deT,daT,xaaT of
P x (x. case xaT,xT,daT,xaaT of P )T | _ (x. dio)E, xaaaT,case xT,deT,daT,xaaT of P xa (xa. case xT,xaT,daT,xaaT of P )T
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
                                                 | (F, P) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)P
                             | F xb
                                 (w. xaaa. case case (xaaaT, case xaT, deT, daT, xaaT of
          P \times (x. case xaT,xT,daT,xaaT of P)T | _ (x. dio)E,
  xaaaT,case xT,deT,daT,xaaT of P xa (xa. case xT,xaT,daT,xaaT of P )T
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                                   w)F
                            dioE)
                         (case case (daT,case xaT,daT,deT,xaaT of
                                              P x (x. case xaT,daT,xT,xaaT of P )T
                                               | _ (x. dio)E,
                                         daT, case xT, daT, deT, xaaT of
                                               P xa (xa. case xT,daT,xaT,xaaT of P )T
                                               | _ (x. dio)E) of
                                  (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                  | (_, b) dioE of
                             P xb
                               (w. xaaa. case case (xaaaT, case xaT, daT, deT, xaaT of
        P x (x. case xaT,daT,xT,xaaT of P )T | _ (x. dio)E,
xaaaT,case xT,daT,deT,xaaT of P xa (xa. case xT,daT,xaT,xaaT of P )T
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)P
                             | F xb
                                 (w. xaaa. case case (xaaaT,case xaT,daT,deT,xaaT of
          P \times (x. case xaT,daT,xT,xaaT of P )T | _ (x. dio)E,
  xaaaT,case xT,daT,deT,xaaT of P xa (xa. case xT,daT,xaT,xaaT of P )T
          | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                   | (P, F) (w. w = w)F | (P, _) dioE
                                                   | (F, P) (w. w = w)F
                                                   | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
                                                   | (_, b) dioE of
                                                   w)F
                            | _ dioE)
                         (case case (daT, case xaT, daT, xaaT, deT of
                                               P x (x. case xaT,daT,xaaT,xT of P )T
                                               | _ (x. dio)E,
                                         daT, case xT, daT, xaaT, deT of
                                               P xa (xa. case xT,daT,xaaT,xaT of P )T
                                               | _ (x. dio)E) of
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(P, P) (w. w = w)P | (P, F) (w. w = w)F
                                   | (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                   | (_, b) dioE of
                              P xb
                                (w. xaaa. case case (xaaaT,case xaT,daT,xaaT,deT of
          P \times (x. case xaT,daT,xaaT,xT of P )T | _ (x. dio)E,
  xaaaT,case xT,daT,xaaT,deT of P xa (xa. case xT,daT,xaaT,xaT of P )T
          | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
                                                  | (F, P) (w. w = w)F
                                                  \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                  | (_, b) dioE of
                                                  w)P
                              | F xb
                                  (w. xaaa. case case (xaaaT,case xaT,daT,xaaT,deT of
            P \times (x. case xaT,daT,xaaT,xT of P)T | _ (x. dio)E,
    xaaaT,case xT,daT,xaaT,deT of P xa (xa. case xT,daT,xaaT,xaT of P )T
            | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                    | (P, F) (w. w = w)F | (P, _) dioE
| (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                     | (_, b) dioE of
                                                    w)F
                        | _ dioE) of w)F
    | _ dioE of
P xb
  (w. xaa. case case (case case (daT,case xaT,deT,xaaT,daT of
                                              P x (x. case xaT,xT,xaaT,daT of P )T
                                              | _ (x. dio)E,
                                        daT, case xT, deT, xaaT, daT of
                                              P xa (xa. case xT,xaT,xaaT,daT of P )T
                                              | _ (x. dio)E) of
                                 (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                  | (_, b) dioE of
                            P xb
                              (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
        P \times (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,xaaT,daT of P xa (xa. case xT,xaT,xaaT,daT of P )T
        | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P, F) (w. w = w)F | (P, _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)P
                            | F xb
                                (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
          P \times (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
  xaaaT,case xT,deT,xaaT,daT of P xa (xa. case xT,xaT,xaaT,daT of P
         | _ (x. dio)E) of
                                                   (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                  | (F, F) (w. w = w)F | (F, _) dioE
                                                  | (_, b) dioE of
                                                  w)F
                            | _ dioE)
                        (case case (daT,case xaT,xaaT,deT,daT of
                                              P x (x. case xaT,xaaT,xT,daT of P )T
                                              | _ (x. dio)E,
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daT, case xT, xaaT, deT, daT of
                                            P xa (xa. case xT,xaaT,xaT,daT of P
                                            | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
                                | (P , _) dioE | (F , P ) (w. w = w)F
                                \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                | (_, b) dioE of
                             (w. xaaa. case case (xaaaT,case xaT,xaaT,deT,daT of
       P x (x. case xaT,xaaT,xT,daT of P )T | _ (x. dio)E,
xaaaT,case xT,xaaT,deT,daT of P xa (xa. case xT,xaaT,xaT,daT of P
       | _ (x. dio)E) of
                                              | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                              | (_, b) dioE of
                                              w)P
                           I F xb
                               (w. xaaa. case case (xaaaT,case xaT,xaaT,deT,daT of
          P x (x. case xaT,xaaT,xT,daT of P )T | _ (x. dio)E,
 xaaaT,case xT,xaaT,deT,daT of P xa (xa. case xT,xaaT,xaT,daT of P
         | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
                                                | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                | (_, b) dioE of
                                                w)F
                           | _ dioE)
                       (case case (daT,case xaT,xaaT,daT,deT of
                                            P x (x. case xaT,xaaT,daT,xT of P )T
                                            | _ (x. dio)E,
                                      daT, case xT, xaaT, daT, deT of
                                            P xa (xa. case xT,xaaT,daT,xaT of P )T
                                            | _ (x. dio)E) of
                                (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                | (_, b) dioE of
                           P xb
                             (w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of
       P x (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E,
xaaaT,case xT,xaaT,daT,deT of P xa (xa. case xT,xaaT,daT,xaT of P )T
       | _ (x. dio)E) of
                                              (P, P) (w. w = w)P
                                              | (P, F) (w. w = w)F | (P, _) dioE
                                              | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                              | (_, b) dioE of
                                         Р
                                              w)P
                           | F xb
                               (w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of
         P \times (x. case xaT, xaaT, daT, xT of P)T | _ (x. dio)E,
 xaaaT,case xT,xaaT,daT,deT of P xa (xa. case xT,xaaT,daT,xaT of P
         | _ (x. dio)E) of
                                                (P, P) (w. w = w)P
                                                | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                | (F, F) (w. w = w)F | (F, _) dioE
                                                | (_, b) dioE of
                                                w)F
                           | _ dioE) of
                  P xb
                    (w. xaaa. case (case case (daT, case xaT, deT, xaaT, xaaaT of
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P x (x. case xaT,xT,xaaT,xaaaT of P )T | \_ (x. dio)E,

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daT,case xT,deT,xaaT,xaaaT of P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
       | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                     \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                     | (F, P) (w. w = w)F
                                                     | (F, F) (w. w = w)F | (F, _) dioE
                                                     | (_, b) dioE of
                                               P xb
case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                    P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xT,deT,xaaT,xaaaT of
     P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E) of (P,P) (w. w = w)P | (P,F) (w. w = w)F | (P,_) dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)P
                                               | F xb
                                                   (w. xaaaa.
  case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                       P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xT,deT,xaaT,xaaaT of
         P \ xa \ (xa. \ case \ xT,xaT,xaaT,xaaaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)P \ | \ (P \ , F \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ \ dioE 
        | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
       | (_, b) dioE of
       w)F
                                               | _ dioE)
                                          (case case (daT, case xaT, xaaT, deT, xaaaT of
       P \times (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
 daT,case xT,xaaT,deT,xaaaT of P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
       | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                     \label{eq:continuous} | \ (\texttt{P} \ , \ \texttt{F} \ ) \quad (\texttt{w}. \ \ \texttt{w} = \ \texttt{w})\texttt{F} \ | \ (\texttt{P} \ , \ \_) \quad \texttt{dioE}
                                                     | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                     | (_, b)  dioE of
                                               P xb
                                                  (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                     P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,deT,xaaaT of
                     P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E) of
      (P , P) (w. w = w)P | (P , F) (w. w = w)F | (P , _) dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)P
                                               | F xb
                                                   (w. xaaaa.
  case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                        P x (x. case xaT, xaaT, xT, xaaaT of P )T \mid _ (x. dio)E,
              xaaaaT,case xT,xaaT,deT,xaaaT of
         P \ xa \ (xa. \ case \ xT, xaaT, xaT, xaaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)P \ | \ (P \ , F \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ \ dioE 
        | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
  F
       w)F
                                               | _ dioE)
                                           (case case (daT,case xaT,xaaT,xaaaT,deT of
       P x (x. case xaT,xaaT,xaaT,xT of P )T | _ (x. dio)E,
 daT,case xT,xaaT,xaaaT,deT of P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
       | _ (x. dio)E) of
                                                     (P, P) (w. w = w)P
                                                     | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                     | (F, F) (w. w = w)F | (F, _) dioE
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| (_, b) dioE of
                                                 (w. xaaaa.
case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                    P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
            xaaaaT,case xT,xaaT,xaaaT,deT of
     P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
     | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
     | (_, b) dioE of
     w)P
                                               | F xb
                                                   (w. xaaaa.
  case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                       Px (x. case xaT, xaaaT, xaaaT, xT of P )T | _ (x. dio)E,
              xaaaaT,case xT,xaaT,xaaaT,deT of
       P xa (xa. case xT,xaaT,xaaaT,xaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
        | (_, b) dioE of
       w)F
                                             | _ dioE) of
                     | F xb
                         (w. xaaa. case (case case (daT,case xaT,deT,xaaT,xaaaT of
          P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
   daT,case xT,deT,xaaT,xaaaT of P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
          | _ (x. dio)E) of
                                                       (P , P ) (w. w = w)P
| (P , F ) (w. w = w)F | (P , _) dioE
                                                       | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                       | (_, b) dioE of
                                                 P xb
                                                   (w. xaaaa.
  case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                      P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
              xaaaaT,case xT,deT,xaaT,xaaaT of
         P \ xa \ (xa. \ case \ xT,xaT,xaaT,xaaaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)P \ | \ (P \ , F \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ \ dioE 
        | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE
       | (_, b) dioE of
       w)P
                                                      (w.
xaaaa. case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                              P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
                     xaaaaT,case xT,deT,xaaT,xaaaT of
                               P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
                               | _ (x. dio)E) of
               (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
              | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
              w)F
                                                 | _ dioE)
                                             (case case (daT,case xaT,xaaT,deT,xaaaT of
          P \times (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
   daT, case xT, xaaT, deT, xaaaT of P xa (xa. case xT, xaaT, xaT, xaaaT of P )T
          | _ (x. dio)E) of
                                                       (P, P) (w. w = w)P
                                                       | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                       \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                       | (_, b) dioE of
                                                 P xb
                                                   (w. xaaaa.
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case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                      P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xT,xaaT,deT,xaaaT of
       P xa (xa. case xT,xaaT,xaT,xaaaT of P )T | _ (x. dio)E) of (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
  Р
       w)P
                                              | F xb
                                                  (w.
xaaaa. case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                            P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
                    xaaaaT,case xT,xaaT,deT,xaaaT of
                             P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
              | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
             | (_, b) dioE of
        F
             w)F
                                              | _ dioE)
                                          (case case (daT,case xaT,xaaT,xaaT,deT of
         P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
   daT, case xT, xaaT, xaaaT, deT of P xa (xa. case xT, xaaT, xaaaT, xaT of P
         | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                    | (F, F) (w. w = w)F | (F, _) dioE
                                                   | (_, b) dioE of
                                              P xb
                                                (w. xaaaa.
  case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                       P \times (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
             xaaaaT,case xT,xaaT,xaaaT,deT of
       \label{eq:problem} P \ xa \ (xa. \ case \ xT, xaaT, xaaaT, xaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)P \ | \ (P \ , F \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ \ dioE
       | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
       | (_, b) dioE of
  Р
       w)P
                                              | F xb
                                                  (w.
xaaaa. case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                            P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
                    xaaaaT,case xT,xaaT,xaaaT,deT of
                             P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
                             | _ (x. dio)E) of
             | (_, b) dioE of
             w)F
                                    | _ dioE of
                    w)P
 | F xb
     (w. xaa. case case (case case (daT,case xaT,deT,xaaT,daT of
                                                 P x (x. case xaT,xT,xaaT,daT of P )T
                                                 | _ (x. dio)E,
                                           daT, case xT, deT, xaaT, daT of
                                                 P xa (xa. case xT,xaT,xaaT,daT of P )T
                                     | _{-} (x. dio)E) of (P, P) (w. w = w)F | (P, F) (w. w = w)F
                                     | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                     | (_, b) dioE of
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(w. xaaa. case case (xaaaT, case xaT, deT, xaaT, daT of
        P \times (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
xaaaT,case xT,deT,xaaT,daT of P xa (xa. case xT,xaT,xaaT,daT of P )T
        | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)P
                             | F xb
                                 (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
          P \times (x. case xaT,xT,xaaT,daT of P )T | _ (x. dio)E,
  xaaaT,case xT,deT,xaaT,daT of P xa (xa. case xT,xaT,xaaT,daT of P )T
          | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P, F) (w. w = w)F | (P, _) dioE
                                                   | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                    | (_, b) dioE of
                                                   w)F
                            | _ dioE)
                         (case case (daT,case xaT,xaaT,deT,daT of
                                              P x (x. case xaT,xaaT,xT,daT of P )T
                                               | _ (x. dio)E,
                                         daT, case xT, xaaT, deT, daT of
                                               P xa (xa. case xT,xaaT,xaT,daT of P )T
                                               | _ (x. dio)E) of
                                  (P, P) (w. w = w)P | (P, F) (w. w = w)F
| (P, _) dioE | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                  | (_, b) dioE of
                            P xb
                               (w. xaaa. case case (xaaaT,case xaT,xaaT,deT,daT of
        P x (x. case xaT,xaaT,xT,daT of P )T | \_ (x. dio)E,
xaaaT,case xT,xaaT,deT,daT of P xa (xa. case xT,xaaT,xaT,daT of P )T
       | _ (x. dio)E) of
                                                 (P, P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                 \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)P
                             | F xb
                                 (w. xaaa. case case (xaaaT, case xaT, xaaT, deT, daT of
          P x (x. case xaT,xaaT,xT,daT of P )T | _ (x. dio)E,
  xaaaT,case xT,xaaT,deT,daT of P xa (xa. case xT,xaaT,xaT,daT of P )T
          | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P, F) (w. w = w)F | (P, _) dioE
                                                   | (F, P) (w. w = w)F
| (F, F) (w. w = w)F | (F, _) dioE
                                                   | (_, b) dioE of
                                              F
                                                   w)F
                            | _ dioE)
                         (case case (daT,case xaT,xaaT,daT,deT of
                                              P x (x. case xaT,xaaT,daT,xT of P )T
                                               | _ (x. dio)E,
                                         daT,case xT,xaaT,daT,deT of
                                               P xa (xa. case xT,xaaT,daT,xaT of P )T
                                  | _ (x. dio)E) of
(P,P) (w. w = w)P | (P,F) (w. w = w)F
                                  | (P , _) dioE | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                  | (_, b) dioE of
```

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(w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of
          P x (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E,
   xaaaT,case xT,xaaT,daT,deT of P xa (xa. case xT,xaaT,daT,xaT of P )T
          | _ (x. dio)E) of
                                                  (P , P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                 | (_, b) dioE of
                                                 w)P
                              | F xb
                                  (w. xaaa. case case (xaaaT,case xaT,xaaT,daT,deT of
             P x (x. case xaT,xaaT,daT,xT of P )T | _ (x. dio)E,
     xaaaT,case xT,xaaT,daT,deT of P xa (xa. case xT,xaaT,daT,xaT of P )T
            | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P, F) (w. w = w)F | (P, _) dioE
                                                   | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                              F
                                                   w)F
                              | _ dioE) of
                     P xb
                      (w. xaaa. case (case case (daT, case xaT, deT, xaaaT, xaaaT of
         P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
   daT,case xT,deT,xaaT,xaaaT of P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
         | _ (x. dio)E) of
                                                  (P , P) (w. w = w)P
                                                 | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
                                                  \mid (F , F ) (w. w = w)F \mid (F , _) dioE
                                                 | (_, b) dioE of
                                            P xb
                                              (w. xaaaa.
  case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                     P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xT,deT,xaaT,xaaaT of
                     P xa (xa. case xT,xaT,xaaT,xaaaT of P )T | _ (x. dio)E) of
       (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
       w)P
                                            I F xb
                                               (w.
xaaaa. case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                            P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
                   xaaaaT,case xT,deT,xaaT,xaaaT of
                            P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
                            | _ (x. dio)E) of
             | (_, b) dioE of
            w)F
                                            | _ dioE)
                                        (case case (daT,case xaT,xaaT,deT,xaaaT of
         P \times (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
   daT,case xT,xaaT,deT,xaaaT of P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
         | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                 | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                 | (_, b) dioE of
                                            P xb
                                              (w. xaaaa.
```

case case (xaaaaT,case xaT,xaaT,deT,xaaaT of

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P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
             xaaaaT,case xT,xaaT,deT,xaaaT of
        P \ xa \ (xa. \ case \ xT, xaaT, xaT, xaaaT \ of \ P \ )T \ | \ \_ \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ \_) \ \ dioE 
       | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
       | (_, b) dioE of
       w)P
                                             I F xb
xaaaa. case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                           P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
                   xaaaaT,case xT,xaaT,deT,xaaaT of
                            P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
                            | _ (x. dio)E) of
             (P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE
             | (F , P ) (w. w = w)F | (F , F ) (w. w = w)F | (F , _) dioE
             | (_, b) dioE of
             w)F
                                            | _ dioE)
                                        (case case (daT,case xaT,xaaT,xaaaT,deT of
         P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
   daT,case xT,xaaT,xaaaT,deT of P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
         | _ (x. dio)E) of
                                                  (P, P) (w. w = w)P
                                                  | (P , F ) (w. w = w)F | (P , _) dioE
                                                  | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                  | (_, b) dioE of
                                            P xb
                                              (w. xaaaa.
  case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                     P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
             xaaaaT,case xT,xaaT,xaaaT,deT of
       P \ xa \ (xa. \ case \ xT,xaaT,xaaaT,xaT \ of \ P \ )T \ | \ (x. \ dio)E) \ of \ (P \ , P \ ) \ (w. \ w = \ w)F \ | \ (P \ , \ _) \ \ dioE
       | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
       | (_, b) dioE of
  Р
       w)P
                                                (w.
xaaaa. case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                          P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
                   xaaaaT,case xT,xaaT,xaaaT,deT of
                           P xa (xa. case xT,xaaT,xaaaT,xaT of P )T
             | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
             | (_, b) dioE of
             w)F
                                        | _ dioE) of w)P
                        (w. xaaa. case (case case (daT, case xaT, deT, xaaT, xaaaT of
           P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
     daT,case xT,deT,xaaT,xaaaT of P xa (xa. case xT,xaT,xaaT,xaaaT of P
          | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                    | (_, b) dioE of
                                              P xb
                                                 (w.
xaaaa. case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                            P x (x. case xaT,xT,xaaT,xaaaT of P )T | _ (x. dio)E,
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xaaaaT,case xT,deT,xaaT,xaaaT of

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P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
             | (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
             | (_, b) dioE of
        Þ
             w)P
                                              | F xb
                                                  (w.
  xaaaa. case case (xaaaaT,case xaT,deT,xaaT,xaaaT of
                             P x (x. case xaT,xT,xaaT,xaaaT of P )T
                              | _ (x. dio)E,
                     xaaaaT,case xT,deT,xaaT,xaaaT of
                              P xa (xa. case xT,xaT,xaaT,xaaaT of P )T
               | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ dioE
               | (_, b) dioE of
               w)F
                                              | _ dioE)
                                          (case case (daT, case xaT, xaaT, deT, xaaaT of
           P \times (x. case xaT, xaaT, xT, xaaaT of P)T | _ (x. dio)E,
     daT, case xT, xaaT, deT, xaaaT of P xa (xa. case xT, xaaT, xaT, xaaaT of P )T
          | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                    \mid (P , F ) (w. w = w)F \mid (P , _) dioE
                                                   | (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                    | (_, b) dioE of
                                              P xb
                                                (w.
xaaaa. case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                           P x (x. case xaT,xaaT,xT,xaaaT of P )T | _ (x. dio)E,
                   xaaaaT,case xT,xaaT,deT,xaaaT of
                           P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
                            | _ (x. dio)E) of
             (P , P ) (w. w = w)P | (P , F ) (w. w = w)F | (P , _) dioE
             | \ (F \ , \ P \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ F \ ) \ (w. \ w = \ w)F \ | \ (F \ , \ \_) \ \ dioE
             | (_, b) dioE of
        Р
             w)P
                                              | F xb
                                                 (w.
  xaaaa. case case (xaaaaT,case xaT,xaaT,deT,xaaaT of
                             P x (x. case xaT,xaaT,xT,xaaaT of P )T
                              | _ (x. dio)E,
                     xaaaaT,case xT,xaaT,deT,xaaaT of
                              P xa (xa. case xT,xaaT,xaT,xaaaT of P )T
               | (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE

| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
               | (_, b) dioE of
               w)F
          F
                                              | _ dioE)
                                          (case case (daT, case xaT, xaaT, xaaaT, deT of
          P x (x. case xaT,xaaT,xaaT,xT of P )T | _ (x. dio)E,
     daT,case xT,xaaT,xaaaT,deT of P xa (xa. case xT,xaaT,xaaaT,xaT of P
          | _ (x. dio)E) of
                                                    (P, P) (w. w = w)P
                                                   | (P , F ) (w. w = w)F | (P , _) dioE
| (F , P ) (w. w = w)F
| (F , F ) (w. w = w)F | (F , _) dioE
                                                   | (_, b) dioE of
                                              P xb
                                                (w.
xaaaa. case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                           P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
                   xaaaaT,case xT,xaaT,xaaaT,deT of
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Р
            w)P
                                               | F xb
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xaaaa. case case (xaaaaT,case xaT,xaaT,xaaaT,deT of
                            P x (x. case xaT,xaaT,xaaaT,xT of P )T | _ (x. dio)E,
                     xaaaaT,case xT,xaaT,xaaaT,deT of
              P xa (xa. case xT,xaaT,xaaT,xaaT,xaT of P )T

| _ (x. dio)E) of

(P, P) (w. w = w)P | (P, F) (w. w = w)F | (P, _) dioE

| (F, P) (w. w = w)F | (F, F) (w. w = w)F | (F, _) dioE
              | (_, b) dioE of
              w)F
                                     | _ dioE) of F w)F
               | _ dioE of F w)F
| _ dioE) of
                                               F w)F
                                 | _ dioE of
                               w)F
   | _ dioE of
P if w. w = True then else | F if w. w = True then else | _ *) =
```