Modal Relational Type Theory in Isabelle/HOL

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June 30, 2016

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

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

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                  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
              P    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
                F    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
                              P    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
                                        F    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 , _)   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
                              P    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
                                    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 , _)   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
                              P    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
                                    F    w)F
                      | _   dioE) of
                  P    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
                    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
                                    P      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
                                    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
                                      | (P , 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      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
                                    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 , _)  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
                              P    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
                                 F    w)F
                    | _  dioE) of
               F    w)F
  | _  dioE of
                                             F    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
                                          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 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
          P    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
         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,
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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 )  (w.  w =  w)P | (P , 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 )  (w.  w =  w)F | (F , _)  dioE
                 | (_, b)  dioE of
            P     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
             F     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   )T
                  | _  (x. dio)E) of
    (P , P )  (w.  w =  w)P | (P , 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,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
            P     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
             F     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 )  (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
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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
                          P    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
                          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
                           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
                          P    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
                          F    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
                          P    w)P
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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 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    w)F
                | _   dioE) of
P    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
                  P    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
                  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
                     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
               P    w)P
     | 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
                      F    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
                    P    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
                    F    w)F
        | _   dioE) of
F    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
            (P , P )  (w.  w =  w)P | (P , 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
                    P    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 , _)  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
                           | (F , F )  (w.  w =  w)F | (F , _)  dioE | (_, b)  dioE of
                      P     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
                      F     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
                           | (F , F )  (w.  w =  w)F | (F , _)  dioE | (_, b)  dioE of
                      P     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
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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
                        F      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
                  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
                        P      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
  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      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
```

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                                                    | (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
                            | (P , 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    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
                      F    w)F
                  | _  dioE) of
              P    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
                            | (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
                      P    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
                                      | (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
      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    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
                                  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
                                  P    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
                                              F     w)F
                           | _  dioE) of
              F     w)F
| _  dioE of
                                                          P     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 )  (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
              P     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
                 | (F , F )  (w.  w =  w)F | (F , _)  dioE
                 | (_, b)  dioE of
              P     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
                        | (F , F )  (w.  w =  w)F | (F , _)  dioE
                        | (_, b)  dioE of
                     F    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
                      | (F , F )  (w.  w =  w)F | (F , _)  dioE
                      | (_, b)  dioE of
                   P    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
                     F    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
                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
                                     P      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
          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      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
                                      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
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                                           | (_, b)  dioE of
                                     P      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
                                         F      w)F
                  | _   dioE) of
             P      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
                             | (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
                                         P      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 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
                                       P    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
                                         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
                                       P    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
                                         F    w)F
                         | _  dioE) of
                    F    w)F
    | _  dioE of
                                                    F    w)F
                           | _  dioE) of
                  P    w)P
           | F x  (w. x. 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 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
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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      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
              F      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   )T
                   |  _  (x. dio)E) of
       (P , P )  (w.  w = w)P | (P , 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
              P      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
              F      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 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,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
              P      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
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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) 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
                    P      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
                    F      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
                    P      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
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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
                        F      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
                  P      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
                     F      w)F
           | _  dioE) of
   P      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
                            | _  (x. dio)E) of
                (P , P )  (w.  w =  w)P | (P , 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
                        P      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
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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
                        | (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,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
                    P      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
                    F      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
                    P      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
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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
                        | (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
                           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 )  (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
                P    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
        (P , P )  (w.  w = w)P | (P , 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
                P    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
                      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
      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
                P    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
                    F    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
                                P    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     )T
        | _   (x. dio)E) of
                                               (P , P )  (w.   w =   w)P
                                               | (P , 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
                                          | (P , 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     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
                                          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 , _)   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
                                      P     w)P


                                          60
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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   )T
        | _  (x. dio)E) of
                                         (P , P )  (w.  w =  w)P
                                         | (P , 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    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
                   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
                                    P    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
                                    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
                                         | (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
                                       P      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
                                       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 , _)  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
                                       P      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
                                       F      w)F
                  | _  dioE) of
            F      w)F
   | _  dioE of
                                             P      w)P
                      | 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
                 P     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
         (P , P )  (w.  w =  w)P | (P , 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
                  P     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
      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
                   P     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
                   F     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
                                    P     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
                                    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
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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    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
                              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 , _)  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
                              P     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
                              F     w)F
                    | _  dioE) of
              P     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
                    P xb
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                          (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
                                      P    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
                                      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
                                          | (P , 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    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
                                      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 , _)  dioE
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                                   | (_, 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
                                     P    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
                                       F    w)F
                       | _  dioE) of
                  F    w)F
      | _  dioE of
F    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
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 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
          P    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
          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 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
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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
              P   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
              F   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   )T
                      | _  (x. dio)E) of
          (P , P )  (w.  w = w)P | (P , 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,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
              P   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
              F   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 )  (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
                       P    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
                       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
                     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
                    P    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
                    F    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
                    P    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
                      F     w)F
            | _  dioE) of
      P    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
                  P    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
                  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
                        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
```

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

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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
                    P    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
                    F    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
                    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
                            P    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
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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
        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    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
                                 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
                                 P    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
                                        F    w)F
                          | _   dioE) of
                    P    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


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


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

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

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


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

```
    P    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
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   )T | _  (x. dio)E) of
                                      (P , P )  (w.  w =  w)P
                                      | (P , 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
  P    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
F    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
                                      | (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
  P    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
F    w)F
                                          | _  dioE) of
                           P    w)P
              | 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
P    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
  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   )T
       | _  (x. dio)E) of
                                         (P , P )  (w.  w =  w)P
                                         | (P , 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
P    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
  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 |  _   (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
P    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
            P    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
                                             | (P , 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    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
                                             | (P , 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


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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 xaaT,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   )T
       | _  (x. dio)E) of
                                        (P , P )  (w.  w = w)P
                                        | (P , 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     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    )T
       | _  (x. dio)E) of
                                        (P , P )  (w.  w = w)P
                                        | (P , 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 xaaT,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
                                  P     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   )T
       | _  (x. dio)E) of
                                        (P , P )  (w.  w = w)P
                                        | (P , 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
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                                  | _  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
                                          | (P , 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
P    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
  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   )T
     | _  (x. dio)E) of
                                          (P , P )  (w.  w =  w)P
                                          | (P , 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
P    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
  F    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
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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. 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
P     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
                     P     w)P
                 | 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
  P     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
      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   )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
                      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    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
      F    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
                                            | (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
    P    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
        F    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
                      P    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   )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
                      P    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
                      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
```

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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
                  P    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
                  F    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
                  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
                                    P    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
                                            | (P , 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,xaaT of
                                     P x  (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,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
                    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
                                | (P , 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    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   )T
        | _  (x. dio)E) of
                                    (P , P )  (w.  w =  w)P
                                    | (P , 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,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
                    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
                          P    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   )T
        | _  (x. dio)E) of
                                      (P , P )  (w.  w =  w)P
                                      | (P , 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    w)P
    | 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
                                   P    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
                                            | (P , 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,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
                                            | (P , 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    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   )T
          | _  (x. dio)E) of
                                            (P , P )  (w.  w =  w)P
                                            | (P , 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,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
                                        | (F , F )  (w.  w =  w)F | (F , _)  dioE
                                        | (_, b)  dioE of
                                  P     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   )T
          | _  (x. dio)E) of
                                        (P , P )  (w.  w =  w)P
                                        | (P , 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
                                         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 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
                        P     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
```

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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
                           P    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
                    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
                           P    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
```

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                                             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
      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
    P     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 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
    P     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
F     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
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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,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
    P    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
F    w)F
                                        | _  dioE) of
                          P    w)P
                    | 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
P    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 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
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```
                                        (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
P    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
  F    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
P    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
  F    w)F
                                    | _  dioE) of
                            F    w)F
                  | _  dioE of
          P    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
                         | (F , F )  (w.  w = w)F | (F , _)  dioE
                         | (_, b)  dioE of
                    P xb
                       (w. xaaa. case case (xaaaT,case xaT,deT,xaaT,daT of
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        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
                                    P    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
                                    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
                                    P    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
                        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
                                          | (P , 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    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,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
 P    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 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
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                         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    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
  F    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
P    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
  F    w)F
                                             | _  dioE) of
                            P    w)P
                  | 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
```

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

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

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


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