```
! Keywords: Blending / Matching / Product Management / Product Mix / Production / Shipping
/ Sorting / Transportation;
! Maximize no. of barges assigned;
MAX      XB11 + XB12 + XB13 + XB14 + XB15 + XB16 + XB21
         + XB22 + XB23 + XB24 + XB25 + XB26 + XB31 + XB32
         + XB33 + XB34 + XB35 + XB36 + XB41 + XB42 + XB43
         + XB44 + XB45 + XB46
   SUBJECT TO
! At most 3 per group;
    2)    XB11 + XB21 + XB31 + XB41 <=    3
    3)    XB12 + XB22 + XB32 + XB42 <=    3
    4)    XB13 + XB23 + XB33 + XB43 <=    3
    5)    XB14 + XB24 + XB34 + XB44 <=    3
    6)    XB15 + XB25 + XB35 + XB45 <=    3
    7)    XB16 + XB26 + XB36 + XB46 <=    3
! Assign no more of a type than are available;
    8)    XB11 + XB12 + XB13 + XB14 + XB15 + XB16 <=    3
    9)    XB21 + XB22 + XB23 + XB24 + XB25 + XB26 <=    4
   10)    XB31 + XB32 + XB33 + XB34 + XB35 + XB36 <=    2
   11)    XB41 + XB42 + XB43 + XB44 + XB45 + XB46 <=    3
! The blending constraints for each group;
   12)    29 XB11 + 1201 XB21 - 2370 XB31 + 200 XB41 >= 0
   13) - 0.06 XB11 + 0.25 XB21 - 0.52 XB31 + 0.08 XB41 <= 0
   14) - 0.94 XB11 + 0.26 XB21 - 2.14 XB31 + 0.16 XB41 <= 0
   15) - 0.8 XB11 - 1.9 XB21 - 2.4 XB31 + 0.6 XB41 <= 0
   16)    29 XB12 + 1201 XB22 - 2370 XB32 + 200 XB42 >= 0
   17) - 0.06 XB12 + 0.25 XB22 - 0.52 XB32 + 0.08 XB42 <= 0
   18) - 0.94 XB12 + 0.26 XB22 - 2.14 XB32 + 0.16 XB42 <= 0
   19) - 0.8 XB12 - 1.9 XB22 - 2.4 XB32 + 0.6 XB42 <=    0
   20)    29 XB13 + 1201 XB23 - 2370 XB33 + 200 XB43 >=    0
   21) - 0.06 XB13 + 0.25 XB23 - 0.52 XB33 + 0.08 XB43 <= 0
   22) - 0.94 XB13 + 0.26 XB23 - 2.14 XB33 + 0.16 XB43 <= 0
   23) - 0.8 XB13 - 1.9 XB23 - 2.4 XB33 + 0.6 XB43 <=    0
   24)    29 XB14 + 1201 XB24 - 2370 XB34 + 200 XB44 >=    0
   25) - 0.06 XB14 + 0.25 XB24 - 0.52 XB34 + 0.08 XB44 <= 0
   26) - 0.94 XB14 + 0.26 XB24 - 2.14 XB34 + 0.16 XB44 <= 0
   27) - 0.8 XB14 - 1.9 XB24 - 2.4 XB34 + 0.6 XB44 <=    0
   28)    29 XB15 + 1201 XB25 - 2370 XB35 + 200 XB45 >=    0
   29) - 0.06 XB15 + 0.25 XB25 - 0.52 XB35 + 0.08 XB45 <= 0
   30) - 0.94 XB15 + 0.26 XB25 - 2.14 XB35 + 0.16 XB45 <= 0
   31) - 0.8 XB15 - 1.9 XB25 - 2.4 XB35 + 0.6 XB45 <=    0
   32)    29 XB16 + 1201 XB26 - 2370 XB36 + 200 XB46 >=    0
   33) - 0.06 XB16 + 0.25 XB26 - 0.52 XB36 + 0.08 XB46 <= 0
   34) - 0.94 XB16 + 0.26 XB26 - 2.14 XB36 + 0.16 XB46 <= 0
   35) - 0.8 XB16 - 1.9 XB26 - 2.4 XB36 + 0.6 XB46 <=    0
   END
   GIN     24
```