```
Minimize
    r
Subject to
    Demand Volume:
        x111 + x121 = 3
        x112 + x122 = 4
        x113 + x123 = 5
        x114 + x124 = 6
        x211 + x221 = 5
        x212 + x222 = 6
        x213 + x223 = 7
        x214 + x224 = 8
        x311 + x321 = 7
        x312 + x322 = 8
        x313 + x323 = 9
        x314 + x324 = 10
    Capacity ST:
        x111 + x112 + x113 + x114 - c11 <= 0
        x121 + x122 + x123 + x124 - c12 <= 0
        x211 + x212 + x213 + x214 - c21 <= 0
        x221 + x222 + x223 + x224 - c22 <= 0
        x311 + x312 + x313 + x314 - c31 <= 0
        x321 + x322 + x323 + x324 - c32 <= 0
    Capacity TD:
        x111 + x211 + x311 - d11 <= 0
        x112 + x212 + x312 - d12 <= 0
        x113 + x213 + x313 - d13 <= 0
        x114 + x214 + x314 - d14 <= 0
        x121 + x221 + x321 - d21 <= 0
        x122 + x222 + x322 - d22 <= 0
        x123 + x223 + x323 - d23 <= 0
        x124 + x224 + x324 - d24 <= 0
    Transit nodes:
        x111 + x211 + x311 + x112 + x212 + x312 + x113 + x213 + x313 + x114 + x214 + x314 - r <= 0
        x121 + x221 + x321 + x122 + x222 + x322 + x123 + x223 + x323 + x124 + x224 + x324 - r <= 0
    Binary Variables:
        u111 + u121 = 2
        u112 + u122 = 2
        u113 + u123 = 2
        u114 + u124 = 2
        u211 + u221 = 2
        u212 + u222 = 2
        u213 + u223 = 2
        u214 + u224 = 2
        u311 + u321 = 2
        u312 + u322 = 2
        u313 + u323 = 2
        u314 + u324 = 2
    Demand Flow:
        2 x111 - 3 u111 = 0
        2 x121 - 3 u121 = 0
        2 x112 - 4 u112 = 0
        2 x122 - 4 u122 = 0
        2 x113 - 5 u113 = 0
        2 x123 - 5 u123 = 0
        2 x114 - 6 u114 = 0
        2 x124 - 6 u124 = 0
        2 x211 - 5 u211 = 0
        2 x221 - 5 u221 = 0
        2 x212 - 6 u212 = 0
        2 x222 - 6 u222 = 0
        2 x213 - 7 u213 = 0
        2 x223 - 7 u223 = 0
        2 x214 - 8 u214 = 0
        2 x224 - 8 u224 = 0
        2 x311 - 7 u311 = 0
        2 x321 - 7 u321 = 0
        2 x312 - 8 u312 = 0
        2 x322 - 8 u322 = 0
        2 x313 - 9 u313 = 0
        2 x323 - 9 u323 = 0
        2 x314 - 10 u314 = 0
        2 x324 - 10 u324 = 0
```

```
Bounds
    0 <= x111
    0 <= x121
    0 <= x112
    0 <= x122
    0 <= x113
    0 <= x123
    0 <= x211
    0 <= x221
    0 <= x212
    0 <= x222
    0 <= x213
    0 <= x223
    0 <= x311
    0 <= x321
    0 <= x312
    0 <= x322
    0 <= x313
    0 <= x323
    0 <= r
Binaries
    u111
    u112
    u113
    u114
    u121
    u122
    u123
    u124
    u211
    u212
    u213
    u214
    u221
    u222
    u223
    u224
    u311
    u312
    u313
    u314
    u321
    u322
    u323
    u324
End
```