Northwoods Backpackers is a retail catalog store in Vermont. It specializes in outdoor clothing and camping equipment. Each day, orders are taken by phone by a large pool of computer operators, some of whom are permanent and some temporary.

A permanent operator can process an average of 76 orders per day, whereas a temporary operator can process an average of 53 orders per day. The company averages at least 600 orders per day. The store has 10 computer workstations. A permanent operator processes about 1.3 orders with errors each day, whereas a temporary operator averages 4.1 orders with errors daily. The store wants to limit errors to 24 per day. A permanent operator is paid $81 per day, including benefits, and a temporary operator is paid $50 per day. The company wants to know the number of permanent and temporary operators to hire to minimize costs.

Formulate an integer programming model for this problem and solve it by using R. As a response, provide the integer programming model and the result obtained after solving it. (No code is required to be submitted)

Refer to the solution: *Minimize Z = 81x1 + 50x2 subject to 76x1 + 53x2 ≥ 600 x1 + x2 ≤ 10 1.3x1 + 4.1x2 ≤ 24 x1, x2 ≥ 0 and integer*