

PRAXIS 43

PERFORMANCE

```
        matrix = new int[sizeX][sizeY]; //Create the matrix and fill
        for (int i=0; i<sizeX; i++)      //it with the default values.
            for (int j=0; j<sizeY; j++)
                matrix[i][j] = initialValue;
    }

    public void addMatrix(Matrix2D other)
    {
        if (actionPending) //Perform any pending actions first.
            performAction();
        performAdd = true; //Store this action...
        performMultiply = false;
        mat = other;
        actionPending = true;
    }

    public void multiplyMatrix(Matrix2D other)
    {
        if (actionPending) //Perform any pending actions first.
            performAction();
        performMultiply = true; //Store this action...
        performAdd = false;
        mat = other;
        actionPending = true;
    }

    public int elementAt(int row, int col)
    {
        int value;
        if (performAdd) //Perform the stored action, return result.
            value = (mat.matrix[row][col]) + (this.matrix[row][col]);
        else
            value = multiplyMatrix(this, mat, row, col);

        actionPending = false;
        return value;
    }

    private void performAction()
    {
        if (performAdd) //Perform the pending action.
        {
            for (int i=0; i<width; i++)
                for (int j=0; j<height; j++)
                    matrix[i][j] += mat.matrix[i][j];
        }
        else if (performMultiply)
        {
            multiplyMatrix(this, mat, -1, -1); //multiply entire matrix
        }
    }
}
```