In-Class Exercise Solution

The return of the portfolio in the "Boom" state:

$$0.2 \times 0.06 + 0.2 \times 0.15 + 0.6 \times 0.25 = 0.192$$

The return of the portfolio in the "Bust" state:

$$0.2 \times 0.11 + 0.2 \times (-0.04) + 0.6 \times (-0.08) = -0.034$$

The expected return of the portfolio is:

$$0.75 \times 0.192 + 0.25 \times (-0.034) = 0.1355$$

The variance of the portfolio is:

$$0.75 \times (0.192 - 0.1355)^2 + 0.25 \times (-0.034 - 0.1355)^2 = 0.009577$$