QUESTION:
Two mutually exclusive projects have the estimated cash flows shown below. Use an annual
equivalent worth analysis to determine which should be selected at an interest rate of 10% per year:

<table>
<thead>
<tr>
<th></th>
<th>Project Q</th>
<th>Project R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial cost, $</td>
<td>-42 000</td>
<td>-80 000</td>
</tr>
<tr>
<td>Annual cost, $/year</td>
<td>-6 000</td>
<td>-7 000 year 1, increasing by $1000 per year</td>
</tr>
<tr>
<td>Salvage value, $</td>
<td>0</td>
<td>4 000</td>
</tr>
<tr>
<td>Life, years</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

SOLUTION:

\[
AEW_Q = -42 000 \left( \frac{1}{A/P,10\%,2} \right) - 6 000 \\
= -42 000 \left( 0.5762 \right) - 6 000 \\
= \$-30 200
\]

\[
AEW_R = -80 000 \left( \frac{1}{A/P,10\%,4} \right) - [7000 + 1000 \left( \frac{1}{A/G,10\%,4} \right)] + 4000 \left( \frac{1}{A/F,10\%,4} \right) \\
\]

\[
= -80 000 \left( 0.3155 \right) - [7000 + 1000 \left( 1.3812 \right)] + 4000 \left( 0.2155 \right) \\
= \$-32,757
\]

(Factors were taken from Table/p.885)

Select project Q \((AEW_Q > AEW_R)\)