# Table 4: Weighted Aggregation Examples under Different Settings

## Scenario 1: Mixed Rescaled Scores

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Case ID | Score (s) | Weight Calc (Easy: k=1, x0=0.3) | Weight (Easy) | Contrib. (Easy) | Weight Calc (Med: k=2, x0=0) | Weight (Med) | Contrib. (Med) | Weight Calc (Hard: k=3, x0=0) | Weight (Hard) | Contrib. (Hard) |  |
| Case A1 | +1.0 | 1/(1+e^(1\*(1-0.3))) | 0.332 | 0.332 | 1/(1+e^(2\*(1-0))) | 0.119 | 0.119 | 1/(1+e^(3\*(1-0))) | 0.047 | 0.047 |  |
| Case A2 | -0.5 | 1/(1+e^(1\*(-0.5-0.3))) | 0.690 | -0.345 | 1/(1+e^(2\*(-0.5-0))) | 0.731 | -0.366 | 1/(1+e^(3\*(-0.5-0))) | 0.818 | -0.409 |  |
| Case A3 | +0.25 | 1/(1+e^(1\*(0.25-0.3))) | 0.512 | 0.128 | 1/(1+e^(2\*(0.25-0))) | 0.378 | 0.094 | 1/(1+e^(3\*(0.25-0))) | 0.321 | 0.080 |  |
| Case A4 | -1.0 | 1/(1+e^(1\*(-1-0.3))) | 0.786 | -0.786 | 1/(1+e^(2\*(-1-0))) | 0.881 | -0.881 | 1/(1+e^(3\*(-1-0))) | 0.952 | -0.952 |  |

## Scenario 2: Mostly High Rescaled Scores

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Case ID | Score (s) | Weight Calc (Easy: k=1, x0=0.3) | Weight (Easy) | Contrib. (Easy) | Weight Calc (Med: k=2, x0=0) | Weight (Med) | Contrib. (Med) | Weight Calc (Hard: k=3, x0=0) | Weight (Hard) | Contrib. (Hard) |  |
| Case B1 | +1.0 | 1/(1+e^(1\*(1-0.3))) | 0.332 | 0.332 | 1/(1+e^(2\*(1-0))) | 0.119 | 0.119 | 1/(1+e^(3\*(1-0))) | 0.047 | 0.047 |  |
| Case B2 | +0.8 | 1/(1+e^(1\*(0.8-0.3))) | 0.378 | 0.302 | 1/(1+e^(2\*(0.8-0))) | 0.168 | 0.134 | 1/(1+e^(3\*(0.8-0))) | 0.083 | 0.066 |  |
| Case B3 | +0.9 | 1/(1+e^(1\*(0.9-0.3))) | 0.354 | 0.319 | 1/(1+e^(2\*(0.9-0))) | 0.142 | 0.128 | 1/(1+e^(3\*(0.9-0))) | 0.063 | 0.057 |  |
| Case B4 | -0.1 | 1/(1+e^(1\*(-0.1-0.3))) | 0.599 | -0.060 | 1/(1+e^(2\*(-0.1-0))) | 0.550 | -0.055 | 1/(1+e^(3\*(-0.1-0))) | 0.574 | -0.057 |  |

## Scenario 3: Mostly Low Rescaled Scores

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Case ID | Score (s) | Weight Calc (Easy: k=1, x0=0.3) | Weight (Easy) | Contrib. (Easy) | Weight Calc (Med: k=2, x0=0) | Weight (Med) | Contrib. (Med) | Weight Calc (Hard: k=3, x0=0) | Weight (Hard) | Contrib. (Hard) |  |
| Case C1 | -0.8 | 1/(1+e^(1\*(-0.8-0.3))) | 0.750 | -0.600 | 1/(1+e^(2\*(-0.8-0))) | 0.832 | -0.666 | 1/(1+e^(3\*(-0.8-0))) | 0.917 | -0.734 |  |
| Case C2 | -0.9 | 1/(1+e^(1\*(-0.9-0.3))) | 0.768 | -0.691 | 1/(1+e^(2\*(-0.9-0))) | 0.858 | -0.772 | 1/(1+e^(3\*(-0.9-0))) | 0.937 | -0.843 |  |
| Case C3 | -1.0 | 1/(1+e^(1\*(-1-0.3))) | 0.786 | -0.786 | 1/(1+e^(2\*(-1-0))) | 0.881 | -0.881 | 1/(1+e^(3\*(-1-0))) | 0.952 | -0.952 |  |
| Case C4 | +0.1 | 1/(1+e^(1\*(0.1-0.3))) | 0.450 | 0.045 | 1/(1+e^(2\*(0.1-0))) | 0.450 | 0.045 | 1/(1+e^(3\*(0.1-0))) | 0.426 | 0.043 |  |