**AHP部分**

1、某案例运用层次分析法进行系统评价，已知评价指标A1、A2、A3相对于总目标的判断矩阵构造如表1所示，C1、C2、C3三个方案对于A1、A2、A3三个评价指标的排序情况分别如下：

，，，请首先计算各指标的权重，并给出各方案的综合排序。

表1 判断矩阵

|  |  |  |  |
| --- | --- | --- | --- |
| 选优 | A1 | A2 | A3 |
| A1 | 1 | 1/5 | 1/3 |
| A2 | 5 | 1 | 3 |
| A3 | 3 | 1/3 | 1 |

平均随机一致性指标如下：

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 矩阵阶数 | 1 | 2 | 3 | 4 | 5 |
| R.I. | 0 | 0 | 0.52 | 0.89 | 1.12 |

2、某案例运用层次分析法进行系统评价，已知评价指标A1、A2、A3、A4、A5相对于总目标的判断矩阵构造如下，请使用和法计算各指标的权重。

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 选优 | A1 | A2 | A3 | A4 | A5 |
| A1 | 1 | 1/2 | 4 | 3 | 3 |
| A2 | 2 | 1 | 7 | 5 | 5 |
| A3 | 1/4 | 1/7 | 1 | 1/2 | 1/3 |
| A4 | 1/3 | 1/5 | 2 | 1 | 1 |
| A5 | 1/3 | 1/5 | 3 | 1 | 1 |

平均随机一致性指标如下：

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 矩阵阶数 | 1 | 2 | 3 | 4 | 5 |
| R.I. | 0 | 0 | 0.52 | 0.89 | 1.12 |