

# Программа REGULY.EXE

---

Исследование операций  
с применением компьютера  
Версия 2.00a (2007)

Reading problem from a file

Number of decisions (max.20) 5  
Number of states of nature (max.20) 5

Payoff table

| Decision | State of nature |   |   |   |   |
|----------|-----------------|---|---|---|---|
|          | 1               | 2 | 3 | 4 | 5 |
| 1        | 4               | 2 | 5 | 3 | 1 |
| 2        | 4               | 8 | 9 | 4 | 1 |
| 3        | 3               | 6 | 5 | 3 | 0 |
| 4        | 6               | 2 | 4 | 3 | 5 |
| 5        | 6               | 1 | 3 | 6 | 9 |

**Decision rule**

1. The Wald Rule
2. The Laplace Rule
3. The Hurwicz Rule
4. The Savage Rule
5. Exit

The Wald Rule

| Decision | State of nature |   |   |   |   | Minimum profit |
|----------|-----------------|---|---|---|---|----------------|
|          | 1               | 2 | 3 | 4 | 5 |                |
| 1        | 4               | 2 | 5 | 3 | 1 | 1              |
| 2        | 4               | 8 | 9 | 4 | 1 | 1              |
| 3        | 3               | 6 | 5 | 3 | 0 | 0              |
| 4        | 6               | 2 | 4 | 3 | 5 | 2              |
| 5        | 6               | 1 | 3 | 6 | 9 | 1              |

Enter minimum profits for decisions

The Wald Rule

| Decision | State of nature |   |   |   |   | Minimum profit |
|----------|-----------------|---|---|---|---|----------------|
|          | 1               | 2 | 3 | 4 | 5 |                |
| 1        | 4               | 2 | 5 | 3 | 1 | 1              |
| 2        | 4               | 8 | 9 | 4 | 1 | 1              |
| 3        | 3               | 6 | 5 | 3 | 0 | 0              |
| 4        | 6               | 2 | 4 | 3 | 5 | 2              |
| 5        | 6               | 1 | 3 | 6 | 9 | 1              |

Select an optimal decision

The Laplace Rule

| Decision | State of nature |   |   |   |   | Average profit |
|----------|-----------------|---|---|---|---|----------------|
|          | 1               | 2 | 3 | 4 | 5 |                |
| 1        | 4               | 2 | 5 | 3 | 1 | 3.00           |
| 2        | 4               | 8 | 9 | 4 | 1 | 5.20           |
| 3        | 3               | 6 | 5 | 3 | 0 | 3.40           |
| 4        | 6               | 2 | 4 | 3 | 5 | 4.00           |
| 5        | 6               | 1 | 3 | 6 | 9 | 5.00           |

Select an optimal decision

DECISION RULES  
Solving the problem

REGULY /7

The Hurwicz Rule

| De-<br>ci-<br>sion | State of nature |   |   |   |   | Min.<br>profit | Max.<br>profit | Weighted<br>average<br>profit |
|--------------------|-----------------|---|---|---|---|----------------|----------------|-------------------------------|
|                    | 1               | 2 | 3 | 4 | 5 |                |                |                               |
| 1                  | 4               | 2 | 5 | 3 | 1 |                |                |                               |
| 2                  | 4               | 8 | 9 | 4 | 1 |                |                |                               |
| 3                  | 3               | 6 | 5 | 3 | 0 |                |                |                               |
| 4                  | 6               | 2 | 4 | 3 | 5 |                |                |                               |
| 5                  | 6               | 1 | 3 | 6 | 9 |                |                |                               |

Enter prudence coefficient 0.7

DECISION RULES  
Solving the problem

REGULY /8

The Hurwicz Rule

| De-<br>ci-<br>sion | State of nature |   |   |   |   | Min.<br>profit | Max.<br>profit | Weighted<br>average<br>profit |
|--------------------|-----------------|---|---|---|---|----------------|----------------|-------------------------------|
|                    | 1               | 2 | 3 | 4 | 5 |                |                |                               |
| 1                  | 4               | 2 | 5 | 3 | 1 | 1              | 5              |                               |
| 2                  | 4               | 8 | 9 | 4 | 1 | 1              | 9              |                               |
| 3                  | 3               | 6 | 5 | 3 | 0 | 0              | 6              |                               |
| 4                  | 6               | 2 | 4 | 3 | 5 | 2              | 6              |                               |
| 5                  | 6               | 1 | 3 | 6 | 9 | 1              | 9              |                               |

Enter minimum and maximum profits for decisions



The Hurwicz Rule

| De-<br>ci-<br>sion | State of nature |   |   |   |   | Min.<br>profit | Max.<br>profit | Weighted<br>average<br>profit |
|--------------------|-----------------|---|---|---|---|----------------|----------------|-------------------------------|
|                    | 1               | 2 | 3 | 4 | 5 |                |                |                               |
| 1                  | 4               | 2 | 5 | 3 | 1 | 1              | 5              | 2.20                          |
| 2                  | 4               | 8 | 9 | 4 | 1 | 1              | 9              | 3.40                          |
| 3                  | 3               | 6 | 5 | 3 | 0 | 0              | 6              | 1.80                          |
| 4                  | 6               | 2 | 4 | 3 | 5 | 2              | 6              | 3.20                          |
| 5                  | 6               | 1 | 3 | 6 | 9 | 1              | 9              | 3.40                          |

Select an optimal decision

DECISION RULES  
Solving the problem

REGULY/10

The Savage Rule

| Payoff table   | 1 | 2 | 3 | 4 | 5 |      |
|----------------|---|---|---|---|---|------|
| 1              | 4 | 2 | 5 | 3 | 1 |      |
| 2              | 4 | 8 | 9 | 4 | 1 |      |
| 3              | 3 | 6 | 5 | 3 | 0 |      |
| 4              | 6 | 2 | 4 | 3 | 5 |      |
| 5              | 6 | 1 | 3 | 6 | 9 |      |
| Maximum profit | 6 | 8 | 9 | 6 | 9 |      |
| Regret table   | 1 | 2 | 3 | 4 | 5 | Max. |
| 1              |   |   |   |   |   |      |
| 2              |   |   |   |   |   |      |
| 3              |   |   |   |   |   |      |
| 4              |   |   |   |   |   |      |
| 5              |   |   |   |   |   |      |

Enter maximum profits for states of nature

DECISION RULES  
Solving the problem

REGULY/11

The Savage Rule

| Payoff table   | 1 | 2 | 3 | 4 | 5 |      |
|----------------|---|---|---|---|---|------|
| 1              | 4 | 2 | 5 | 3 | 1 |      |
| 2              | 4 | 8 | 9 | 4 | 1 |      |
| 3              | 3 | 6 | 5 | 3 | 0 |      |
| 4              | 6 | 2 | 4 | 3 | 5 |      |
| 5              | 6 | 1 | 3 | 6 | 9 |      |
| Maximum profit | 6 | 8 | 9 | 6 | 9 |      |
| Regret table   | 1 | 2 | 3 | 4 | 5 | Max. |
| 1              | 2 | 6 | 4 | 3 | 8 |      |
| 2              | 2 | 0 | 0 | 2 | 8 |      |
| 3              | 3 | 2 | 4 | 3 | 9 |      |
| 4              | 0 | 6 | 5 | 3 | 4 |      |
| 5              | 0 | 7 | 6 | 0 | 0 |      |

Enter regret table

DECISION RULES  
Solving the problem

REGULY/12

The Savage Rule

| Payoff table   | 1 | 2 | 3 | 4 | 5 |      |
|----------------|---|---|---|---|---|------|
| 1              | 4 | 2 | 5 | 3 | 1 |      |
| 2              | 4 | 8 | 9 | 4 | 1 |      |
| 3              | 3 | 6 | 5 | 3 | 0 |      |
| 4              | 6 | 2 | 4 | 3 | 5 |      |
| 5              | 6 | 1 | 3 | 6 | 9 |      |
| Maximum profit | 6 | 8 | 9 | 6 | 9 |      |
| Regret table   | 1 | 2 | 3 | 4 | 5 | Max. |
| 1              | 2 | 6 | 4 | 3 | 8 | 8    |
| 2              | 2 | 0 | 0 | 2 | 8 | 8    |
| 3              | 3 | 2 | 4 | 3 | 9 | 9    |
| 4              | 0 | 6 | 5 | 3 | 4 | 6    |
| 5              | 0 | 7 | 6 | 0 | 0 | 7    |

Enter maximum regrets for decisions

DECISION RULES  
Solving the problem

REGULY/13

The Savage Rule

| Payoff table   | 1 | 2 | 3 | 4 | 5 |      |
|----------------|---|---|---|---|---|------|
| 1              | 4 | 2 | 5 | 3 | 1 |      |
| 2              | 4 | 8 | 9 | 4 | 1 |      |
| 3              | 3 | 6 | 5 | 3 | 0 |      |
| 4              | 6 | 2 | 4 | 3 | 5 |      |
| 5              | 6 | 1 | 3 | 6 | 9 |      |
| Maximum profit | 6 | 8 | 9 | 6 | 9 |      |
| Regret table   | 1 | 2 | 3 | 4 | 5 | Max. |
| 1              | 2 | 6 | 4 | 3 | 8 | 8    |
| 2              | 2 | 0 | 0 | 2 | 8 | 8    |
| 3              | 3 | 2 | 4 | 3 | 9 | 9    |
| 4              | 0 | 6 | 5 | 3 | 4 | 6    |
| 5              | 0 | 7 | 6 | 0 | 0 | 7    |

Select an optimal decision