統計分析軟體功能解釋.

1.貝氏定理，最高可以處理 9 層機率。

Input data:以 3 層機率為例，

The Bayesian theorem, the number of level (2 ~ 8) number of level　　3	**[　The baysian theorem which has 3 level　]** The levels are A,B,C -------------- choose -------------------- 1. The input data is from file 2. The input data is from console 3. return 2
There are three levels which are A,B and C, please input category number of A	There are 3 levels, please input category number of A category number of A　　3
There are three levels which are A,B and C, Level A has 3 categories, please input the probability	Please input probabilities of category of A P(A1)　　0.2 P(A2)　　0.5 P(A3)　　0.3
There are three levels which are A,B and C, Level A has 3 categories, P(A1)=0.200000 P(A2)=0.500000 P(A3)=0.300000 please input category number of B	There are 3 levels, please input category number of B category number of B　　2
There are three levels which are A,B and C, Level A has 3 categories, P(A1)=0.200000 P(A2)=0.500000 P(A3)=0.300000 Level B has 2 categories, Please input conditional probability P(B|A1)	Please input conditional probabilities of category of B|A1 P(B1|A1)　　0.6 P(B2|A1)　　0.4
There are three levels which are A,B and C, Level A has 3 categories, Level B has 2 categories, P(A1)=0.200000-----P(B1|A1)=0.600000,P(B2|A1)=0.400000 P(A2)=0.500000 P(A3)=0.300000 Please input conditional probability P(B|A2)	Please input conditional probabilities of category of B|A2 P(B1|A2)　　0.7 P(B2|A2)　　0.3
There are three levels which are A,B and C, Level A has 3 categories, Level B has 2 categories, P(A1)=0.200000-----P(B1|A1)=0.600000,P(B2|A1)=0.400000 P(A2)=0.500000-----P(B1|A2)=0.700000,P(B2|A2)=0.300000 P(A3)=0.300000 Please input conditional probability P(B|A3)	Please input conditional probabilities of category of B|A3 P(B1|A3)　　0.2 P(B2|A3)　　0.8

There are three levels which are A,B and C,

Level A has 3 categories,

Level B has 2 categories,

P(A1)=0.200000-----P(B1|A1)=0.600000,P(B2|A1)=0.400000

P(A2)=0.500000-----P(B1|A2)=0.700000,P(B2|A2)=0.300000

P(A3)=0.300000-----P(B1|A3)=0.200000,P(B2|A3)=0.800000

There are three levels which are A,B and C,

Level A has 3 categories,

Level B has 2 categories,

P(A1)=0.000000

P(B1|A1)=0.600000,P(B2|A1)=0.400000,P(A2)=0.000000

P(B1|A2)=0.700000,P(B2|A2)=0.300000,P(A3)=0.000000

P(B1|A3)=0.200000,P(B2|A3)=0.800000,

please input category number of C

There are 3 levels, please input category number of C

| category number of C | 2 |

Please input conditional probabilities of category of C|A1 and B1

| P[C1|A1 and B1] | 0.6 |
| P[C2|A1 and B1] | 0.4 |

Please input conditional probabilities of category of C|A1 and B2

| P[C1|A1 and B2] | 0.2 |
| P[C2|A1 and B2] | 0.8 |

Please input conditional probabilities of category of C|A2 and B1

| P[C1|A2 and B1] | 0.5 |
| P[C2|A2 and B1] | 0.5 |

Please input conditional probabilities of category of C|A2 and B2

| P[C1|A2 and B2] | 0.1 |
| P[C2|A2 and B2] | 0.9 |

Please input conditional probabilities of category of C|A3 and B1

| P[C1|A3 and B1] | 0.81 |
| P[C2|A3 and B1] | 0.19 |

Please input conditional probabilities of category of C|A3 and B2

| P[C1|A3 and B2] | 0.22 |
| P[C2|A3 and B2] | 0.78 |

Output data

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   P(A and B)=P(A)P(B|A)
   P(B)=summation A of   P(A and B)
   P(A and B and C)=P(A)P(B|A)P(C|A and B)
   P(A and C)=P(A)P(C|A)=summation B of   P(A and B and C)
   P(B and C)=P(A)P(C|A)=summation A of   P(A and B and C)
   P(C)=summation A,B of   P(A and B and C)
   P(A|B)=P(A and B )/P(B)
   P(A|C)=P(A and C )/P(C)
   P(B|C)=P(B and C )/P(C)
   P(B|A and C)=P(A and B and C)/P(A and C )
   P(A|B and C)=P(A and B and C)/P(B and C )
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P(A1)=0.200000-----P(B1|A1)=0.600000,P(B2|A1)=0.400000,
P(A2)=0.500000-----P(B1|A2)=0.700000,P(B2|A2)=0.300000,
P(A3)=0.300000-----P(B1|A3)=0.200000,P(B2|A3)=0.800000,

P(A1 and B1)=P(A1)P(B1|A1)=0.120000---P(C1|A1 and B1)=0.600000,P(C2|A1 and B1)=0.400000,
P(A1 and B2)=P(A1)P(B2|A1)=0.080000---P(C1|A1 and B2)=0.200000,P(C2|A1 and B2)=0.800000,
P(A2 and B1)=P(A2)P(B1|A2)=0.350000---P(C1|A2 and B1)=0.500000,P(C2|A2 and B1)=0.500000,
P(A2 and B2)=P(A2)P(B2|A2)=0.150000---P(C1|A2 and B2)=0.100000,P(C2|A2 and B2)=0.900000,
P(A3 and B1)=P(A3)P(B1|A3)=0.060000---P(C1|A3 and B1)=0.810000,P(C2|A3 and B1)=0.190000,
P(A3 and B2)=P(A3)P(B2|A3)=0.240000---P(C1|A3 and B2)=0.220000,P(C2|A3 and B2)=0.780000,
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P(A1)=0.200000-----P(C1|A1)=0.440000,P(C2|A1)=0.560000,
P(A2)=0.500000-----P(C1|A2)=0.380000,P(C2|A2)=0.620000,
P(A3)=0.300000-----P(C1|A3)=0.338000,P(C2|A3)=0.662000,

P(A1 and C1)=P(A1)P(C1|A1)=0.088000---P(B1|A1 and C1)=0.818182,P(B2|A1 and C1)=0.181818,
P(A1 and C2)=P(A1)P(C2|A1)=0.112000---P(B1|A1 and C2)=0.428571,P(B2|A1 and C2)=0.571429,
P(A2 and C1)=P(A2)P(C1|A2)=0.190000---P(B1|A2 and C1)=0.921053,P(B2|A2 and C1)=0.078947,
P(A2 and C2)=P(A2)P(C2|A2)=0.310000---P(B1|A2 and C2)=0.564516,P(B2|A2 and C2)=0.435484,
P(A3 and C1)=P(A3)P(C1|A3)=0.101400---P(B1|A3 and C1)=0.479290,P(B2|A3 and C1)=0.520710,
P(A3 and C2)=P(A3)P(C2|A3)=0.198600---P(B1|A3 and C2)=0.057402,P(B2|A3 and C2)=0.942598,
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P(B1)=0.530000
P(B2)=0.470000
P(B1)=0.530000-----P(A1|B1)=0.226415,P(A2|B1)=0.660377,P(A3|B1)=0.113208,
P(B2)=0.470000-----P(A1|B2)=0.170213,P(A2|B2)=0.319149,P(A3|B2)=0.510638,
P(A1 and B1)=0.120000----P(C1|A1 and B1)=0.600000,P(C2|A1 and B1)=0.400000,
P(A1 and B2)=0.080000----P(C1|A1 and B2)=0.200000,P(C2|A1 and B2)=0.800000,
P(A2 and B1)=0.350000----P(C1|A2 and B1)=0.500000,P(C2|A2 and B1)=0.500000,
P(A2 and B2)=0.150000----P(C1|A2 and B2)=0.100000,P(C2|A2 and B2)=0.900000,
P(A3 and B1)=0.060000----P(C1|A3 and B1)=0.810000,P(C2|A3 and B1)=0.190000,
P(A3 and B2)=0.240000----P(C1|A3 and B2)=0.220000,P(C2|A3 and B2)=0.780000,
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P(B1)=0.530000
P(B2)=0.470000
P(B1)=0.530000-----P(C1|B1)=0.557736,P(C2|B1)=0.442264,
P(B2)=0.470000-----P(C1|B2)=0.178298,P(C2|B2)=0.821702,
P(B1 and C1)=0.295600----P(A1|B1 and C1)=0.243572,P(A2|B1 and C1)=0.592016,P(A3|B1 and C1)=0.164411,
P(B1 and C2)=0.234400----P(A1|B1 and C2)=0.204778,P(A2|B1 and C2)=0.746587,P(A3|B1 and C2)=0.048635,
P(B2 and C1)=0.083800----P(A1|B2 and C1)=0.190931,P(A2|B2 and C1)=0.178998,P(A3|B2 and C1)=0.630072,
P(B2 and C2)=0.386200----P(A1|B2 and C2)=0.165717,P(A2|B2 and C2)=0.349560,P(A3|B2 and C2)=0.484723,
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P(C1)=0.379400
P(C2)=0.620600
P(A1 and B1 and C1)=P(A1)P(B1|A1)P(C1|A1 and B1)=0.072000
P(A1 and B1 and C2)=P(A1)P(B1|A1)P(C2|A1 and B1)=0.048000
P(A1 and B2 and C1)=P(A1)P(B2|A1)P(C1|A1 and B2)=0.016000
P(A1 and B2 and C2)=P(A1)P(B2|A1)P(C2|A1 and B2)=0.064000
P(A2 and B1 and C1)=P(A2)P(B1|A2)P(C1|A2 and B1)=0.175000
P(A2 and B1 and C2)=P(A2)P(B1|A2)P(C2|A2 and B1)=0.175000
P(A2 and B2 and C1)=P(A2)P(B2|A2)P(C1|A2 and B2)=0.015000
P(A2 and B2 and C2)=P(A2)P(B2|A2)P(C2|A2 and B2)=0.135000
P(A3 and B1 and C1)=P(A3)P(B1|A3)P(C1|A3 and B1)=0.048600
P(A3 and B1 and C2)=P(A3)P(B1|A3)P(C2|A3 and B1)=0.011400
P(A3 and B2 and C1)=P(A3)P(B2|A3)P(C1|A3 and B2)=0.052800
P(A3 and B2 and C2)=P(A3)P(B2|A3)P(C2|A3 and B2)=0.187200
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P(C1)=0.379400-----P(A1|C1)=0.231945,P(A2|C1)=0.500791,P(A3|C1)=0.267264,
P(C2)=0.620600-----P(A1|C2)=0.180471,P(A2|C2)=0.499517,P(A3|C2)=0.320013,
P(A1 and C1)=0.088000----P(B1|A1 and C1)=0.818182,P(B2|A1 and C1)=0.181818,
P(A1 and C2)=0.112000----P(B1|A1 and C2)=0.428571,P(B2|A1 and C2)=0.571429,
P(A2 and C1)=0.190000----P(B1|A2 and C1)=0.921053,P(B2|A2 and C1)=0.078947,
P(A2 and C2)=0.310000----P(B1|A2 and C2)=0.564516,P(B2|A2 and C2)=0.435484,
P(A3 and C1)=0.101400----P(B1|A3 and C1)=0.479290,P(B2|A3 and C1)=0.520710,
P(A3 and C2)=0.198600----P(B1|A3 and C2)=0.057402,P(B2|A3 and C2)=0.942598,
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P(C1)=0.379400-----P(B1|C1)=0.779125,P(B2|C1)=0.220875,
P(C2)=0.620600-----P(B1|C2)=0.377699,P(B2|C2)=0.622301,
P(B1 and C1)=0.295600----P(A1|B1 and C1)=0.243572,P(A2|B1 and C1)=0.592016,P(A3|B1 and C1)=0.164411,
P(B1 and C2)=0.234400----P(A1|B1 and C2)=0.204778,P(A2|B1 and C2)=0.746587,P(A3|B1 and C2)=0.048635,
P(B2 and C1)=0.083800----P(A1|B2 and C1)=0.190931,P(A2|B2 and C1)=0.178998,P(A3|B2 and C1)=0.630072,
P(B2 and C2)=0.386200----P(A1|B2 and C2)=0.165717,P(A2|B2 and C2)=0.349560,P(A3|B2 and C2)=0.484723,
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