Example for bucket elimination algorithm

What are the most probable values for all variables such that a person doesn't catch dyspnea?

P(α) = (0.01,0.99)

τ	α	**P(**α)	P(τ|α)	$\mathbf{H_\alpha(\tau)}$
T	T	0.01	0.05	
T	F	0.99	0.01	0.0099
F	T	0.01	0.95	0.9801
F	F	0.99	0.99	

ε	ξ	**P(**ξ|ε**)**	$\mathbf{H_\xi(\varepsilon)}$
T	T	0.98	0.98
T	F	0.02	
F	T	0.05	0.95
F	F	0.95	

τ	β	λ	ε	**P(**ε|τ,λ**)**	**H**δ**(**ε,β**)**	$\mathbf{H_\xi(\varepsilon)}$	$\mathbf{H_\varepsilon(\tau,\beta,\lambda)}$
T	T	T	T	1	0.1	0.98	0.098
T	T	T	F	0	0.2	0.95	
T	T	F	T	1	0.1	0.98	0.098
T	T	F	F	0	0.2	0.95	
T	F	T	T	1	0.3	0.98	0.294
T	F	T	F	0	0.9	0.95	
T	F	F	T	1	0.3	0.98	0.294
T	F	F	F	0	0.9	0.95	
F	T	T	T	1	0.1	0.98	0.098
F	T	T	F	0	0.2	0.95	
F	T	F	T	0	0.1	0.98	0.190
F	T	F	F	1	0.2	0.95	
F	F	T	T	1	0.3	0.98	0.294
F	F	T	F	0	0.9	0.95	
F	F	F	T	0	0.3	0.98	0.855
F	F	F	F	1	0.9	0.95	

δ=F	ε	β	$\mathbf{H_\delta(\varepsilon,\beta)=P(\delta=F\|\varepsilon,\beta)}$
F	T	T	0.1
F	T	F	0.3
F	F	T	0.2
F	F	F	0.9

τ	β	σ	**P(**β|σ**)**	**P(**σ**)**	$\mathbf{H_\lambda(\tau,\beta,\sigma)}$	$\mathbf{H_\sigma(\tau,\beta)}$
T	T	T	0.6	0.5	0.0882	0.02646
T	T	F	0.3	0.5	0.09702	
T	F	T	0.4	0.5	0.2646	0.101871
T	F	F	0.7	0.5	0.29106	
F	T	T	0.6	0.5	0.171	0.0513
F	T	F	0.3	0.5	0.1881	
F	F	T	0.4	0.5	0.7695	0.2962575
F	F	F	0.7	0.5	0.84645	

τ	β	λ	σ	**P(**λ|σ**)**	$\mathbf{H_\varepsilon(\tau,\beta,\lambda)}$	$\mathbf{H_\lambda(\tau,\beta,\sigma)}$
T	T	T	T	0.1	0.098	0.0882
T	T	T	F	0.9	0.098	
T	T	F	T	0.01	0.098	0.09702
T	T	F	F	0.99	0.098	
T	F	T	T	0.1	0.294	0.2646
T	F	T	F	0.9	0.294	
T	F	F	T	0.01	0.294	0.29106
T	F	F	F	0.99	0.294	
F	T	T	T	0.1	0.098	0.171
F	T	T	F	0.9	0.190	
F	T	F	T	0.01	0.098	0.1881
F	T	F	F	0.99	0.190	
F	F	T	T	0.1	0.294	0.7695
F	F	T	F	0.9	0.855	
F	F	F	T	0.01	0.294	0.84645
F	F	F	F	0.99	0.855	

τ	β	$\mathbf{H_\sigma(\tau,\beta)}$	$\mathbf{H_\beta(\tau)}$
T	T	0.02646	0.101871
T	F	0.101871	
F	T	0.0513	0.2962575
F	F	0.2962575	

τ	$\mathbf{H_\alpha(\tau)}$	$\mathbf{H_\beta(\tau)}$	$\mathbf{H_\alpha(\tau)*\ H_\beta(\tau)}$	**MPE probability**
T	0.0099	0.101871	0.0010085229	0.29036197575
F	0.9801	0.2962575	0.29036197575	

T' = 0.29036197575=F σ'=0.2962575=F ε'=0.855=F ξ'=0.95=F

B'= 0.2962575=F λ'=0.84645=F δ'=F α'=0.9801=F