Example: Problem 3

1. Change the Number of Burger Order while Drink Order remain constant

Burger Order = 5

Drink Order = 2

; States evaluated: 3137

; Cost: 53.019

; Time 6.71

Burger Order = 6

Drink Order = 2

; States evaluated: 3176

; Cost: 54.019

; Time 6.65

Burger Order = 7

Drink Order = 2

; States evaluated: 4686

; Cost: 72.026

; Time 11.20

Burger Order = 8

Drink Order = 2

; States evaluated: 4770

; Cost: 72.027

; Time 11.40

Burger Order = 9

Drink Order = 2

; States evaluated: 6306

; Cost: 90.033

; Time 16.98

Burger Order = 10

Drink Order = 2

; States evaluated: 6354

; Cost: 91.033

; Time 17.45

1. Change the Number of Drink Order while Burger Order remain constant

Burger Order = 5

Drink Order = 3

; States evaluated: 3229

; Cost: 54.020

; Time 7.01

Burger Order = 5

Drink Order = 4

; States evaluated: 3225

; Cost: 57.023

; Time 7.31

Burger Order = 5

Drink Order = 5

; States evaluated: 3088

; Cost: 56.022

; Time 6.89

Burger Order = 5

Drink Order = 6

; States evaluated: 3223

; Cost: 57.023

; Time 7.31

Burger Order = 5

Drink Order = 7

; States evaluated: 3215

; Cost: 58.024

; Time 7.34

1. Jumbo Number Testing (Close to real world problem)

Burger Order = 20

Drink Order = 14

; States evaluated: 14337

; Cost: 191.072

; Time 76.96

Burger Order = 21

Drink Order = 15

; States evaluated: 15625

; Cost: 209.078

; Time 91.95

Burger Order = 22

Drink Order = 16

; States evaluated: 15647

; Cost: 210.077

; Time 92.18

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| --- | --- | --- | --- | --- | --- |
| Table 1. Change burger number when drink remain constant | | | | | |
|  | Drink Order | Burger Order | State evaluated | Cost | Time |
| Sample 1 | 2 | 5 | 3137 | 53.019 | 6.71 |
| Sample 2 | 2 | 6 | 3176 | 54.019 | 6.65 |
| Sample 3 | 2 | 7 | 4686 | 72.026 | 11.2 |
| Sample 4 | 2 | 8 | 4770 | 72.027 | 11.4 |
| Sample 5 | 2 | 9 | 6306 | 90.033 | 16.98 |
| Sample 6 | 2 | 10 | 6354 | 91.033 | 17.45 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Table 2. Change drink number when burger remain constant | | | | | |
|  | Drink Order | Burger Order | State evaluated | Cost | Time |
| Sample 1 | 2 | 5 | 3229 | 53.019 | 6.71 |
| Sample 2 | 3 | 5 | 3225 | 54.019 | 6.65 |
| Sample 3 | 4 | 5 | 3088 | 72.026 | 11.2 |
| Sample 4 | 5 | 5 | 3223 | 72.027 | 11.4 |
| Sample 5 | 6 | 5 | 3215 | 90.033 | 16.98 |
| Sample 6 | 7 | 5 | 6354 | 91.033 | 17.45 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Table 3. Jumbo Number Testing (Close to real world problem) | | | | | |
|  | Drink Order | Burger Order | State evaluated | Cost | Time |
| Sample 1 | 14 | 20 | 14337 | 191.072 | 76.96 |
| Sample 2 | 15 | 21 | 15625 | 209.078 | 91.95 |
| Sample 3 | 16 | 22 | 15647 | 210.77 | 92.18 |