

[Recursive algorithm]

```

C:\Users\윤준호\Documents\Visual Studio 2015\Projects\Pricing_an_American_option\Debug>Pricing_an_
American_option.exe 0.5 20 0.05 0.3 50 40
European Down and Out Option Pricing
Expiration Time (Years) = 0.5
Number of Divisions = 20
Risk Free Interest Rate = 0.05
Volatility (Age of stock value) = 30
Initial Stock Price = 50
Strike Price = 40

-----
R = 1.00125
Up Factor = 1.06938
Uptick Probability = 0.250934
Downtick Probability = 0.249068
Notick Probability = 0.499998
-----

[Recursive Algorithm]
Trinomial Price of an American Call Option = 11.549          1055.58 Seconds
Trinomial Price of an American Put Option = 0.570685         1102.24 Seconds

```

[Dynamic programming]

```

C:\Users\윤준호\Documents\Visual Studio 2015\Projects\Pricing_an_American_option\Debug>Pricing_an_
American_option.exe 1 200 0.05 0.3 50 60
European Down and Out Option Pricing
Expiration Time (Years) = 1
Number of Divisions = 200
Risk Free Interest Rate = 0.05
Volatility (Age of stock value) = 30
Initial Stock Price = 50
Strike Price = 60

-----
R = 1.00025
Up Factor = 1.03045
Uptick Probability = 0.250414
Downtick Probability = 0.249586
Notick Probability = 0.5
-----

[Dynamic Programming]
Dynamic Pricing of an American Call Option = 3.44907          0.204789 Seconds
Dynamic Pricing of an American Put Option = 11.3391           0.22498 Seconds

```