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## fd\_fixedasian\_rodgershi

Input parameters:

- SpaceStepNumber  $N$
- TimeStepNumber  $M$

Output parameters:

- Price
- Delta

We use finite difference Crank-Nicholson scheme to solve the Rodgers-Shi [\[1\]](#) PDE equation with Dirichlet boundary condition. cf. [there](#)

One uses linear interpolation to find the option value and delta value corresponding to the initial stock price. The linear system is solved with the Gauss method. cf. [Routine fd\\_gauss\\_.c](#)

## References

- [1] L.C.G.ROGERS Z.SHI. The value of an asian option. *J. Appl. Probab.*, 32(4):1077–1088, 1995. [1](#)