Bancor Bonding Curve

Extracted from https://github.com/slothman3878/bondingcurve/blob/main/contracts/BancorFormula/BancorFormula.sol.

Price at any given time:

$$P = \frac{R}{FS}$$

Where:

R = Reserve balance.

F = Reserve weight, (in 6 decimals alongside its numerator or denominator, -1 is constant in no precision).

S = Current supply.

Price to Purchase a given amount A of tokens: purchaseCost()

$$P = R \times \frac{A}{S+1}^{(\frac{1}{F}-1)}$$

Amount of tokens to purchase for a given value V of reserve tokens: purchaseTargetAmount()

$$A = S \times (1 + \frac{V}{R})^{(\frac{F}{1}-1)}$$

Value returned when an amount A of tokens is sold: saleTargetAmount()

$$V = R \times (1 - (1 - (\frac{A}{S})^{(\frac{1}{F})}))$$