ValueCalc

ValueCalc is a Java applet designed to show the time value of money. It is my final project for the summer 2002 session of Computer Science II (22C:020) at the University of Iowa. ValueCalc, this document, and the source code for the applet can be found at:

http://filespace.its.uiowa.edu/~nlsmith/ValueCalc.html

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The applet has four panels, which make four separate calculations. These calculations are explained below. All calculations use *r* for the interest rate and *n* for the number of periods.

Present value:

The present value is the amount that must be invested today to attain some amount over a period of time. This future value, entered by the user is multiplied by the *present value accumulation factor:* $\frac{1}{(1+r)^n}$.

Present value of an annuity:

When paying a series of equal cash flows (also called a "normal annuity") over a specified number of periods the present value of the annuity can be found by multiplying the amount to be invested each period by the *present value discount factor:* $\frac{1}{r}\left[1-\frac{1}{(1+r)^n}\right]$.

Future value:

If an amount is invested today, its value after compounding can be found by multiplying the principal by the *future value accumulation factor*: $(1+r)^n$.

Future value of an annuity:

When paying a series of equal cash flows (also called a "normal annuity") over a specified number of periods the future value of the annuity can be found by multiplying the amount to be invested each period by the *future value discount factor:* $\frac{(1+r)^n-1}{1}$.