

Panel 1

Scope: Where a variable is defined

- valid inside segment where it is defined
- if defined twice, closer one counts

Field: a variable at class level, accessible to all methods

```
public class Test
{
    double x = 10;
    public void change(double x, double y)
    {
        x = 20; y = 30;
    }
}
```

Annotations in the original image: "field" with an arrow pointing to x = 10; and "variables" with arrows pointing to the parameters x and y in the method signature.

Panel 2

A method returns at most one value!

If methods need to modify 2 or more variables => use fields.

Ex: Compute compound interest, 6.5% per year, for \$10,000 over 10 years.

Print out interest + new amount per year.

YEAR	Interest	Amount
=> year 1	\$ 650	\$10,650.00
2	?	?
3	?	?

nice by for method if poss.

Panel 3

A) One method for interest

One method for new amount

B) One method to change interest + amount!



requires fields!

Note: w/o compounding: \$10000 at 6.5 for 10 years  
= \$16500

with compounding: \$18771,-

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Panel 4

Option: Ask for periods of compounding  
per year, then print amounts!

I will explain Decimal Formal on handout

Next Assignment: Secret Code

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