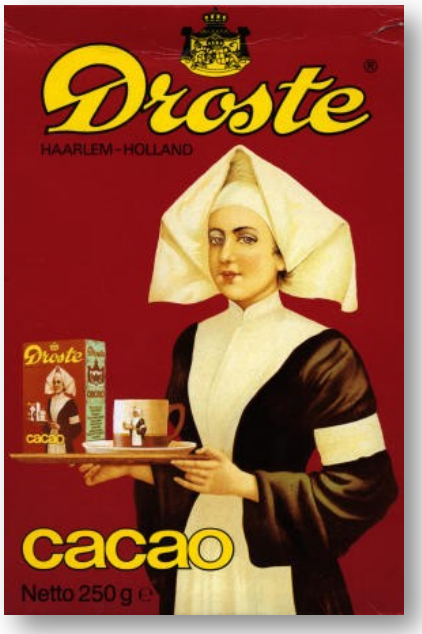
NON-

TERMINATION



Source: Wikipedia

power(x,y)

```
int power (int x, int y){ // y>=0
  if (y==0)
    return 1;
  else
    return x*power(x,y-1);
}
```

power(x,-2)

- power(x,-2)
- if (-2==0){return 1}
  else return x*power(x,-2-1)
- if (false){return 1}
  else return x*power(x,-3)
- return x*power(x,-3)

- power(x,-2) ➔ x*power(x,-3)

power(x,-3)

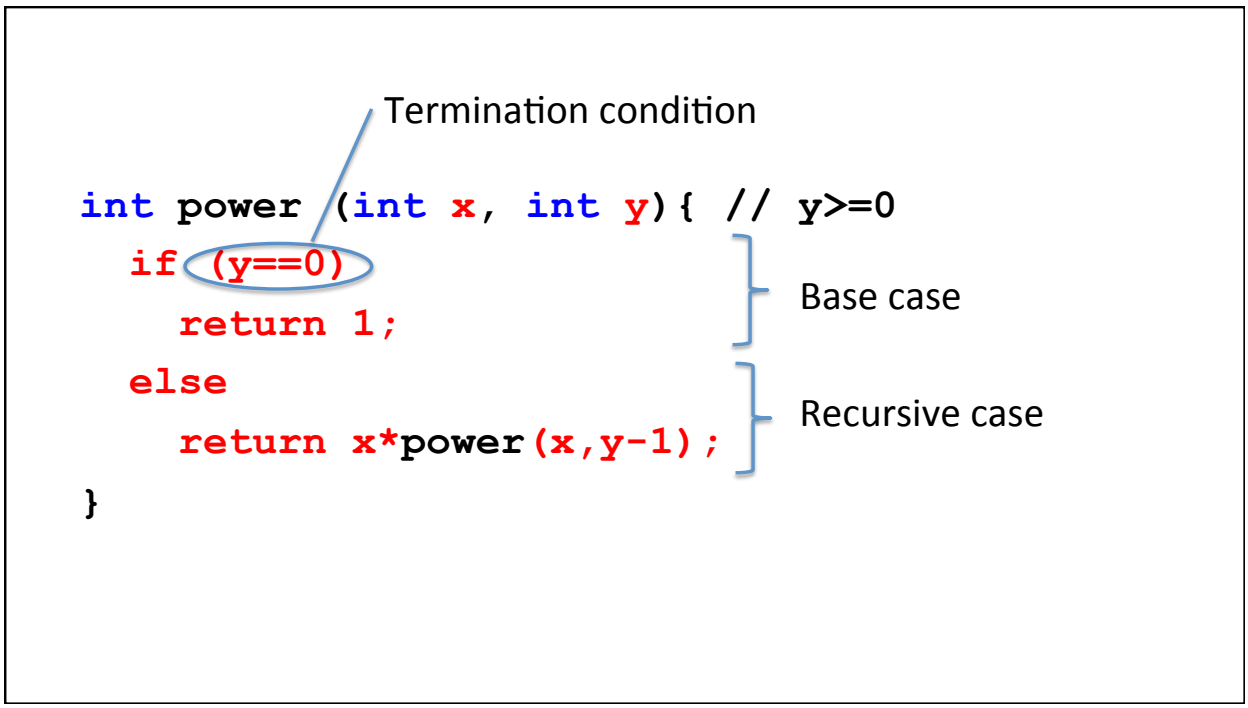
- `power(x,-3)`
- `if (-3==0){return 1}`
  `else return x*power(x,-3-1)`
- `if (false){return 1}`
  `else return x*power(x,-4)`
- `return x*power(x,-4)`

- `power(x,-3)` ➔ `x*power(x,-4)`

- `power(x,-2)` ➔ `x*power(x,-3)`
- `power(x,-3)` ➔ `x*power(x,-4)`
- `power(x,-4)` ➔ `x*power(x,-5)`
- `power(x,-5)` ➔ `x*power(x,-6)`
- …

- Non-termination

```
int power (int x, int y){ // y>=0
  if (y==0)
    return 1;
  else
    return x*power(x,y-1);
}
```

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