

SW (HW Design) Testing

Basic Concepts

- Testing
 - Verification & Validation
- Levels
 - Design/Implementations
 - Unit, Integration, System
 - Post-Manufacturing
 - Only for Board/IC
- Techniques
 - Black Box
 - Coverage criteria
 - Average or border values, particular cases, out-of-range values, etc.
 - White Box
 - Coverage criteria
 - LOC, paths, cycles, n-cycles, etc.

SW (HW Design) Testing

Techniques

Design/Implementations

Black Box

```
int MCD(int x, int y);
```

For each input:

MAX

MAX/2

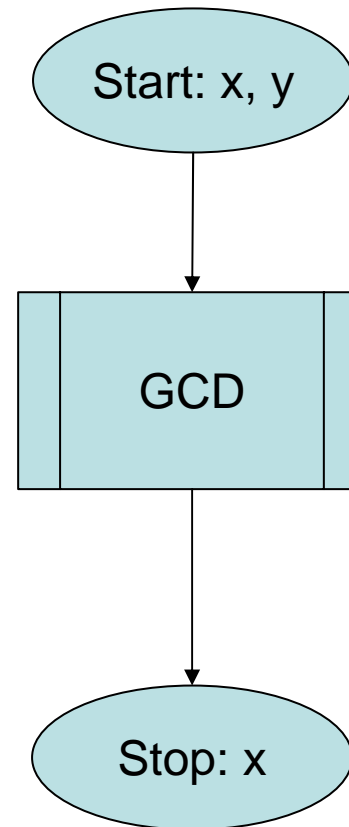
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1

-MAX

- MAX/2

-1



White Box

```
int GCD(int x, int y)
{
    while (x != y)
    {
        if (x < y) y = y - x;
        else x = x - y;
    }
    return x;
}
```

Paths

$x < y$

$x > y$

Cycles: $x = y$

n-Cycles...

