Quiz #2

* Convert the GCD algorithm given in this flowchart into
  1) “Normal” assembler, where only branches can be conditional.
  2) ARM assembler, where all instructions are conditional, thus improving code density.

* The only instructions you need are CMP, B and SUB.
Quiz #2 - Sample Solutions

“Normal” Assembler

```assembly
gcd     cmp r0, r1       ; reached the end?
beq stop
blt less       ; if r0 > r1
sub r0, r0, r1   ; subtract r1 from r0
bal gcd
less    sub r1, r1, r0   ; subtract r0 from r1
bal gcd
stop
```

ARM Conditional Assembler

```assembly
gcd     cmp r0, r1       ; if r0 > r1
subgt r0, r0, r1   ; subtract r1 from r0
sublt r1, r1, r0   ; else subtract r0 from r1
bne gcd       ; reached the end?
```