

1.)

**Precondition: two positive Integers' m and n**

**Post condition: the greatest common integer divisor of m and n**

If  $m < n$

While  $n \neq 0$

$r = m \bmod n$

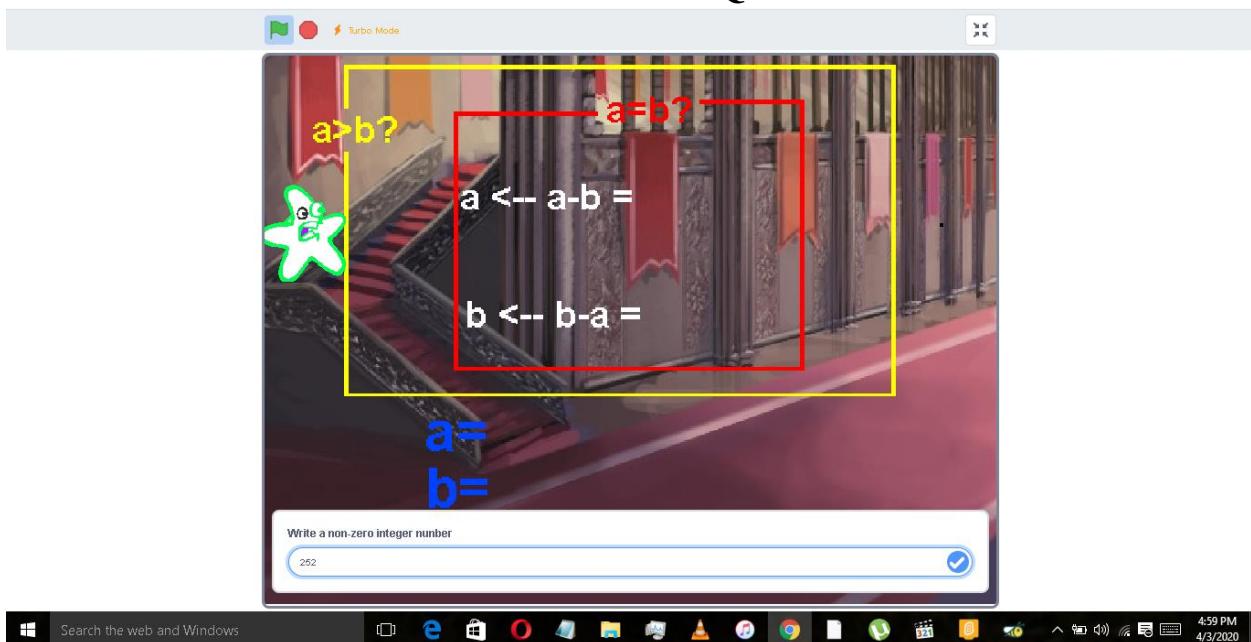
$m = n$

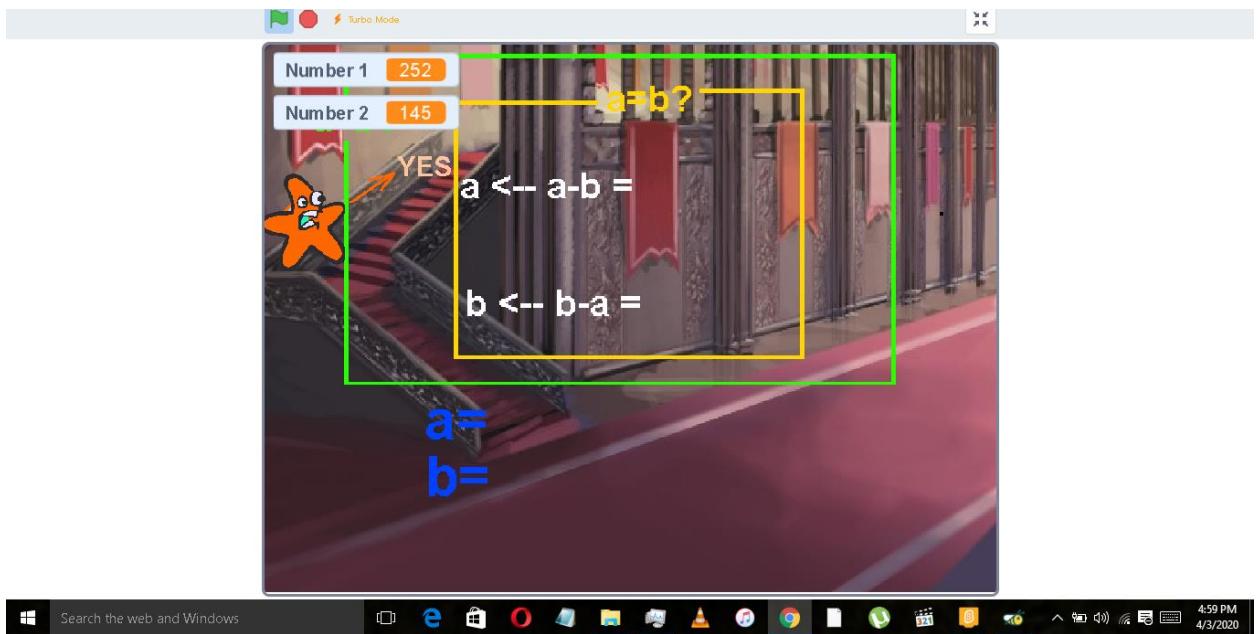
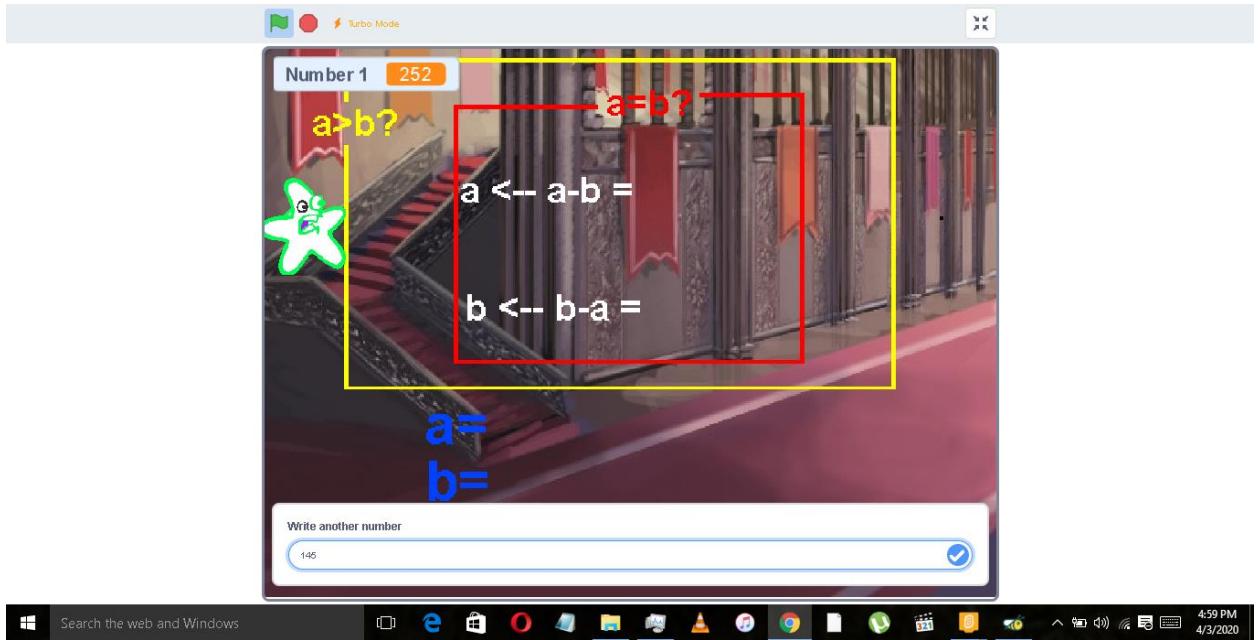
$n = r$

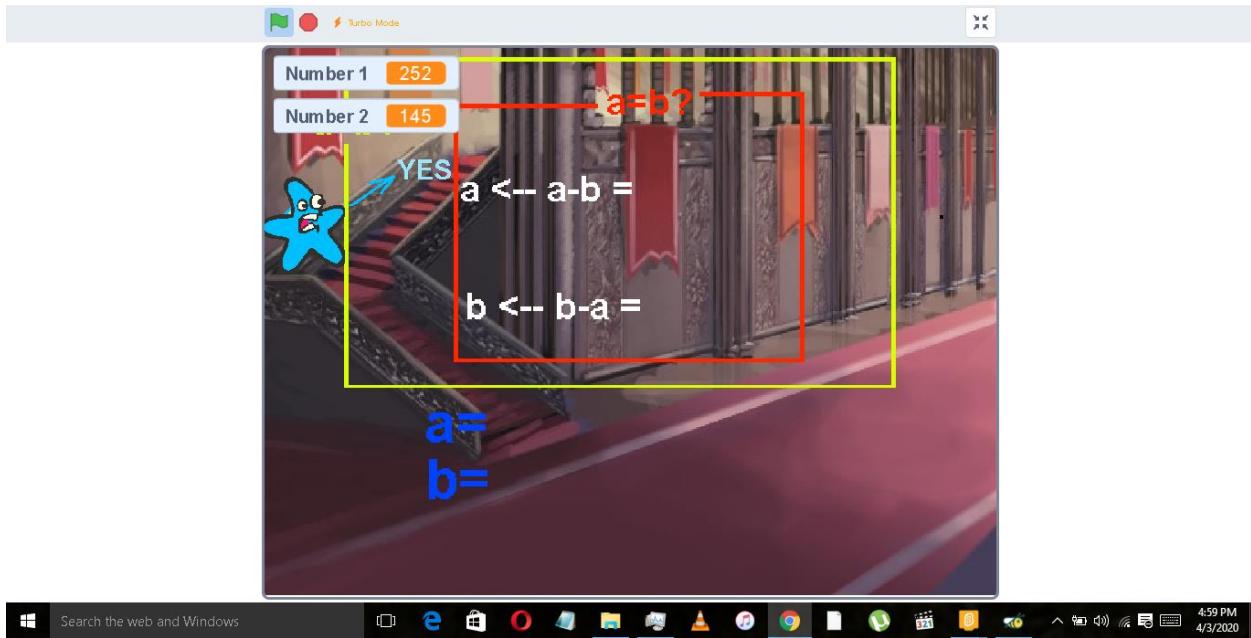
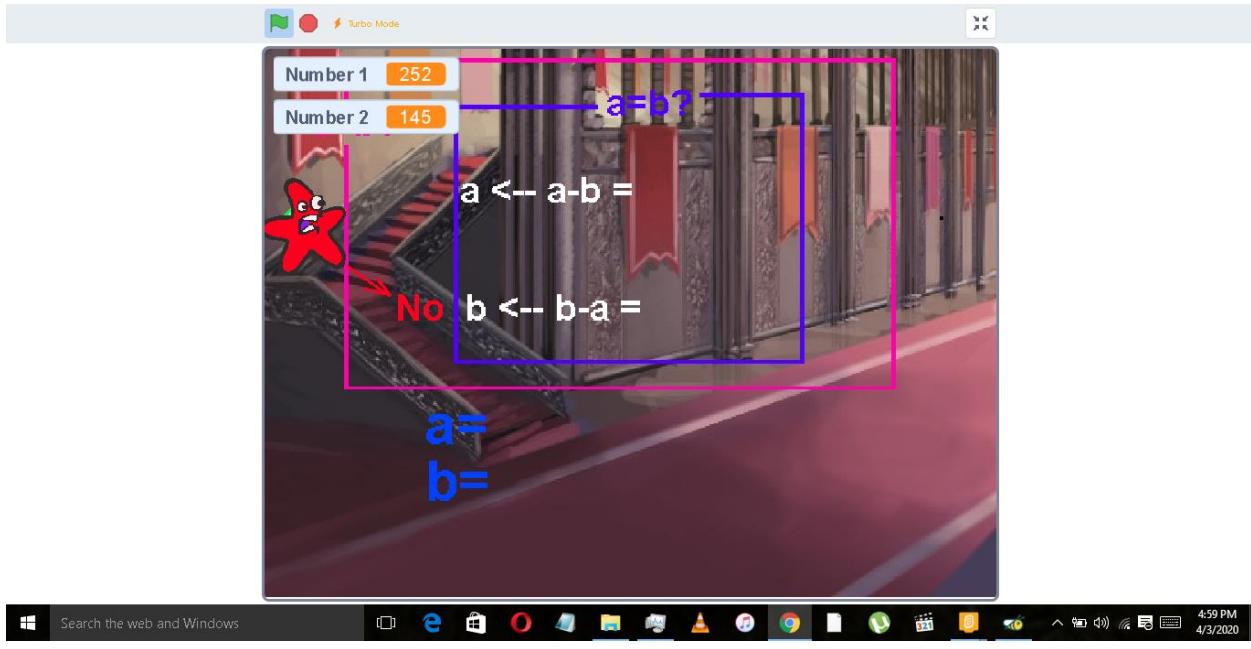
end

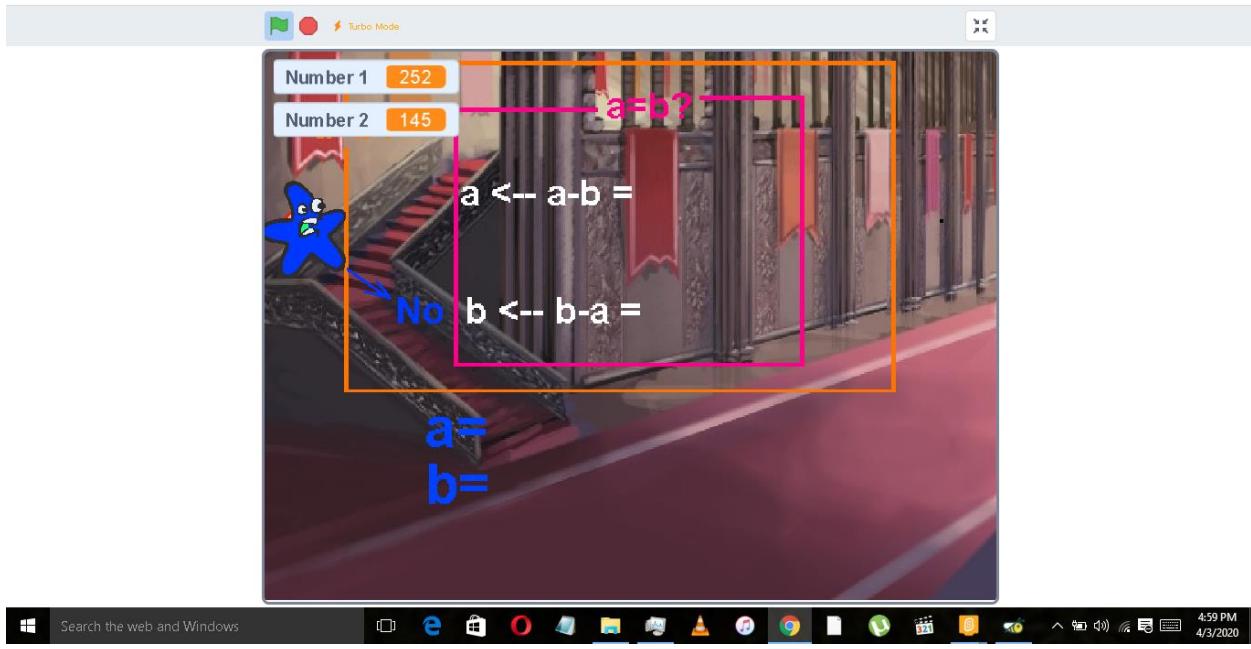
output m

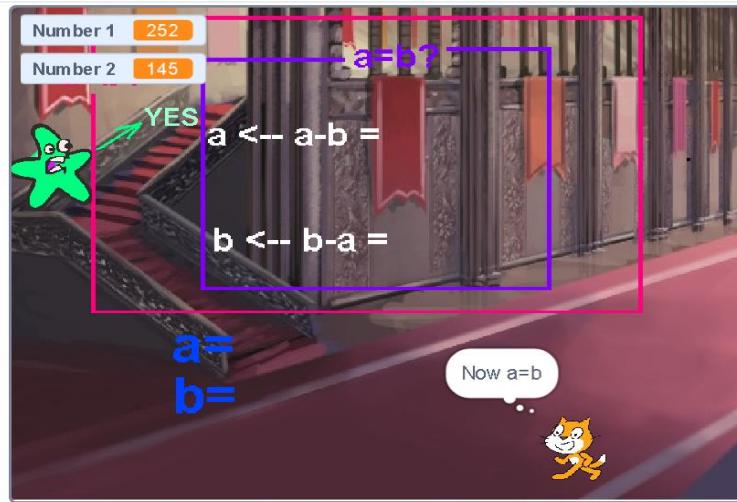
## 2. SCRATCH REPRESENTATION OF QUESTION 1



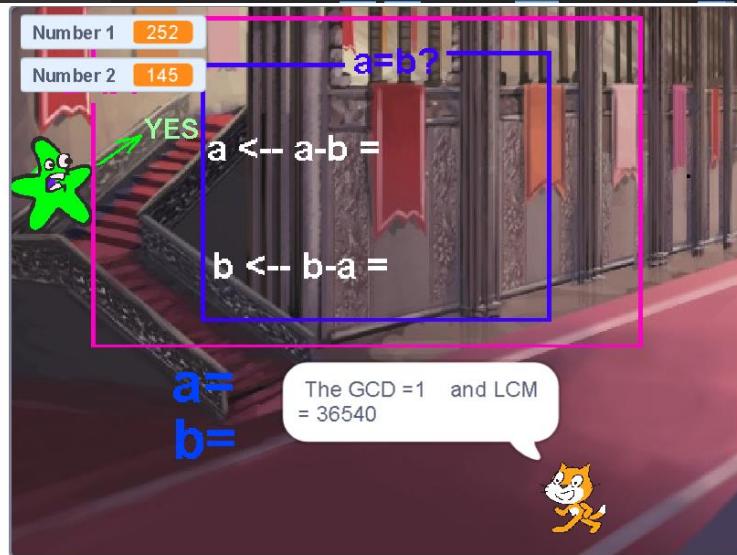








Windows Search the web and Windows 5:00 PM 4/3/2020



Windows Search the web and Windows 5:00 PM 4/3/2020

Screenshot of Scratch script for GCD

```

when green flag clicked
  delete [a] of [a <- a-b]
  delete [all] of [b <- b-a]
  hide variable [Number 1 v]
  hide variable [Number 2 v]
  set [a v] to [0]
  set [b v] to [0]
  broadcast [star0 v]
  ask [Write a non-zero integer number] and wait
  set [a v] to [answer]
  set [GCD v] to [a]
  set [Number 1 v] to [a]
  show variable [Number 1 v]
  ask [Write another number] and wait
  set [b v] to [answer]

```

Screenshot of Scratch script for GCD

```

set [Number 1 v] to [0]
show variable [Number 1 v]
ask [Write another number] and wait
set [b v] to [answer]
show variable [Number 2 v]
set [Number 2 v] to [b]
repeat until [a = b]
  if [a > b] then
    broadcast [star v]
    set [a v] to [a - b]
    insert [a] at [last] of [a <- a-b]
    wait [Delay] seconds
  else
    broadcast [star2 v]
    set [b v] to [b - a]
    insert [b] at [last] of [b <- b-a]
  end
end

```

