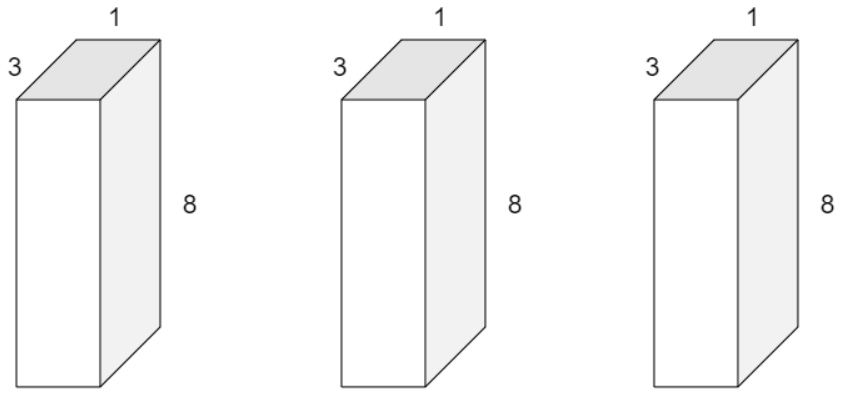
Main_11

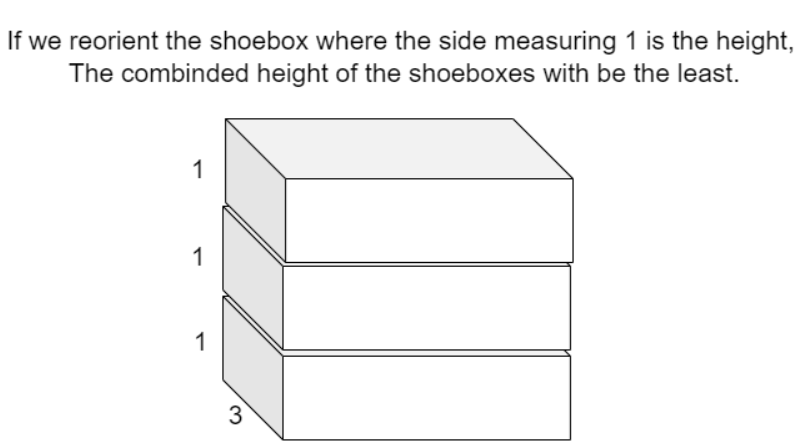
To gain the shortest height of stacked boxes I would need to identify which edge of the shoebox is the shortest

i.e. Length, Width, Height

I would then orient the box where the **shortest side(whether that be length, width or height)** of the box acts as the height of the stack.

Proven With Diagram





“If we orient the shoebox where the side measuing the lowest (this case 1) is the height, the combinded height of the shoeboxes will be the least”

If we reorient the shoebox where the side measuring 1 is the height,

The combinded height of the shoeboxes with be the least.

```
PROGRAM stackBoxes
BEGIN

length <- 0
width <- 0
height <- 0
numBox <- 0
smallestSide <- 0

PRINT "Enter length of shoebox: "
READ_INT length

PRINT "Enter width of shoebox: "
READ_INT width

PRINT "Enter height of shoebox: "
READ_INT height

PRINT "Enter number of shoeboxes: "
READ_INT numBox

IF length < width and length < height THEN
    smallestSide <- length
ELSE THEN
    IF width < length and width < height THEN
        smallestSide <- width
    ELSE THEN
        IF height < length and height < width THEN
            smallestSide <- height
        ELSE THEN
          IF height = length and height = width THEN
              smallestSide <- length //can use height, width, or length for the calulation if this happens because we will get the same result.
          ENDIF
        ENDIF
    ENDIF
ENDIF
PRINT "The minimum height of", numBox, "of dimensions", length, "x", width, "x", height, "is", smallestSide * numBox
END
```

```
length = int(input("Enter length of shoebox: "))
width = int(input("Enter width of shoebox: "))
height = int(input("Enter height of shoebox: "))
numBox = int(input("Enter number of shoeboxes: "))

if length < width and length < height:
  smallestSide = length
elif width < length and width < height:
  smallestSide = width
elif height < length and height < width:
  smallestSide = height
elif height == length and height == width:
  smallestSide = length

print("The minimum height of", numBox, "shoeboxes of dimensions", length, "x", width, "x", height, "is", smallestSide * numBox)
```