



## Try These!

**Remember to include these at the top of your program!:**

```
import mcpi.minecraft as minecraft
import mcpi.block as block
```

```
mc= minecraft.Minecraft.create()
pos = mc.player.getTilePos()
```

**Build a tower:**

```
for a in range(60):
    mc.setBlock(pos.x+3, pos.y+a, pos.z, block.STONE.id)
```

**Build a hollow cube!**

```
def hollowCube(size):
    x = pos.x+2
    y = pos.y
    z = pos.z
    # Build the outside
    mc.setBlocks(x, y, z, x+size, y+size, z+size,
block.WOOL.id,
                2)
    # Clear inside
    mc.setBlocks(x+1, y+1, z+1, x+size-1, y+size-1, z+size-1,
                block.AIR.id)
hollowCube(10)
```

**Build a solid cube!**

```
def solidCube(size):
    x = pos.x+2
    y = pos.y
    z = pos.z
    mc.setBlocks(x, y, z, x+size, y+size, z+size, block.WOOL.id,
                4)
solidCube(10)
```

## Build a sphere!

```
#Players position
x = pos.x
y = pos.y
z = pos.z
def drawSphere(x1, y1, z1, radius, blockType, blockData=0):
    for x in range(radius*-1,radius):
        for y in range(radius*-1, radius):
            for z in range(radius*-1,radius):
                if x**2 + y**2 + z**2 < radius**2:
                    mc.setBlock(x1 + x, y1 + y, z1 + z,
                                blockType, blockData)
drawSphere(x,y+20,z,15,block.WOOL.id,5)
```

## Create a python definition to create a house!

```
def createHouse(size):
    # Modify Current position to build house in front of you:
    x = pos.x+2
    y = pos.y
    z = pos.z
    # Calculate midpoint of house in order to make windows, doors etc:
    midx = x + size/2
    midy = y + size/2
    # Build the outside of the house as a shell:
    mc.setBlocks(x, y, z, x+size, y+size, z+size, block.WOOD_PLANKS.id)
    # Clear inside of the house by turning it into air
    mc.setBlocks(x+1, y, z+1, x+size-2, y+size-1, z+size-2,block.AIR.id)
    # Clear space of the door:
    mc.setBlocks(midx-1, y+1, z, midx+1, y+4, z, block.AIR.id)
    # Create the windows:
    mc.setBlocks(x+3, y+size-3,z, midx-3, midy+3,z,block.GLASS.id)
    mc.setBlocks(midx+3, y+size-3, z, x+size-3, midy+3,z,block.GLASS.id)
    # Time for a carpet!:
    mc.setBlocks(x+1, y, z+1, x+size-2, y, z+size-2, block.WOOL.id,1)
createHouse(10)
```

**Build a wall:**

```
def wall(size):
    wood = block.WOOD_PLANKS
    for x in xrange(0, size):
        for y in xrange(0, size):
            mc.setBlock(pos.x - x, pos.y + y, pos.z, wood)
wall(10)
```

**Delete Blocks: (filling an area with air)**

```
def deleteBlocks(startx, starty, startz, finishx, finishy,
    finishz):
    #Sets blocks to air
    mc.setBlocks(startx, starty, startz, finishx, finishy,
        finishz, block.AIR.id)

x = pos.x-2
y = pos.y
z = pos.z
size = 20
deleteBlocks(x,y,z,x+size,y+size,z+size)
```

This will spawn air behind you! Try playing with the positioning and size.

**Build a Pyramid:**

At the top of your code add "import math"

SANDSTONE = 24 #Makes the pyramid sandstone!

```
def CreatePyramid(posx, posy, posz, width, base, walls, topblock):

    if width%2==0:
        width=width+1
    height = (width+1)/2
    halfsize = int(math.floor(width/2))

    # Create base for pyramid
    mc.setBlocks(posx-halfsize-2, posy-1, posz-halfsize-2, posx+halfsize+2, posy-1, posz+halfsize+2, base)

    # Create solid Pyramid
    for y in range(posy, posy+height):
        mc.setBlocks(posx-halfsize, y, posz-halfsize, posx+halfsize, y, posz+halfsize, walls)
        halfsize = halfsize-1

    # Set the top block (or change it!)
    mc.setBlock(posx, posy+height-1, posz, topblock)

x = pos.x+23
y = pos.y
z = pos.z
width = 21
#Call the definition so it can run!
CreatePyramid(x, y, z, width, SANDSTONE, SANDSTONE, SANDSTONE)
```

Try changing the width variable, the position variable and try changing the block types (where it says SANDSTONE).

The parameters for CreatePyramid are CreatePyramid(x position, y position, z position, width, block type for base, block type for walls, and block type for the topblock)