Building in Minecraft

Minecraft is a great 3D world game – you can program it using python on a Raspberry Pi. Instead of moving a turtle, you can move the player and create blocks in the world.

1. connecting *(always do this first)*
```
import mcpi.minecraft as minecraft
mc = minecraft.Minecraft.create()
```

2. chatting
```
mc.postToChat("hello minecraft")
```

3. coordinates
x = forward and backward
y = up and down
z = left and right

4. where are you?
```
pos = mc.player.getPos()
print(pos.x, pos.y, pos.z)
```

5. moving
```
mc.player.setPos(10, 50, 10)
```

6. creating a block
```
from mcpi.block import *
x = 38
y = 0
z = 7
mc.setBlock(x+1, y, z, GLOWING_OBSIDIAN)
```

7. creating an area of blocks
```
from mcpi.block import *
x=38
y=0
z=7
mc.setBlocks(x,y,z,x+10, y+10, z+10, STONE)
```

8. functions
```
from mcpi.block import *
def house(x,y,z):
    mc.setBlocks(x,y,z,x+10,y+10,z+10,STONE)
    mc.setBlocks(x+1,y+1,z+1,x+9,y+9,z+9,AIR)

house(10,10,10)
house(20,10,10)
```

9. counted loops
```
from mcpi.block import *
for y in range(50):
  mc.setBlock(10, y, 0,
GLOWING_OBSIDIAN)
```

10. infinite loops
```
import time
while True:
    time.sleep(1)
    pos = mc.player.getPos()
    print(pos.x, pos.y, pos.z)
```

Challenges:
1. write a script that when you run it, it teleports you to the other side of the world
2. create a large area of stone
3. carve out the inside of your stone with air
4. carve out a window with air
5. write a loop to build a whole street of stone houses

Links:
http://www.stuffaboutcode.com/p/minecraft-api-reference.html
http://arghbox.wordpress.com/tag/minecraft-pi-api/