Can a printer print itself anew while being worn out?

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Introduction

Self-repairing robots are taking more importance with time; as a first approximation to this field, we use a robot which specialty is creating new parts, a 3D printer.

Preliminary Steps

Communication Channel

We start the work focusing on the communication PC-Printer. We are willing to use serial communication as suggested by some knowledgeable group members. We will first establish communication between well-known and controllable devices (PC-Arduino Nano), and after we can jump to the communication PC-Printer.

Linux is not a real time operating system. So, we cannot generate pulses with the required timings to control stepper motors directly from the board pins with running software, even as a kernel module. Then, how can we use steppers and high-level Linux features? (`https://medium.com/iotforall/how-to-build-a-3d-printer-in-python-b05af32489f5`)
One solution is PyCNC, but it needs additional hardware to control the motors. Our purpose is to use the actual printer's hardware and send instructions by Python.