



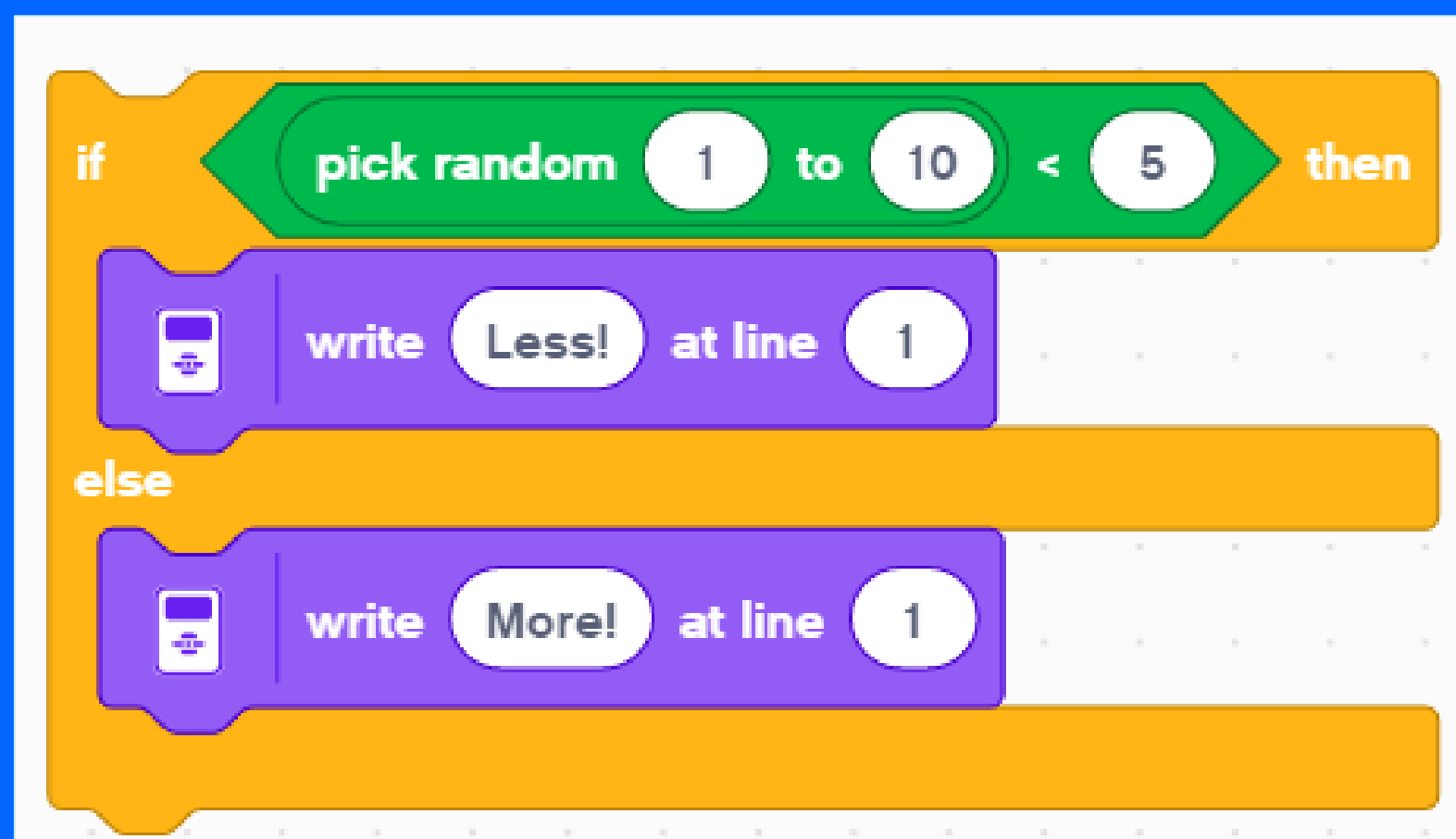
Introductory Robotics Instruction at College Park Academy



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Introduction:

This semester I have been volunteering at College Park Academy as a robotics instructor. I work in a group with two other UMD students, and we meet once a week through Zoom with our CPA students. Our goal is to give our students exposure to fields like robotics and computer science without any daunting coding languages.



The Lego EV3 “block coding” language above is much more beginner-friendly than a standard coding language like Python (below).

```
import random

if random.randint(1,10) < 5:
    print("Less!")
else:
    print("More!")
```

Site Information:

Site: College Park Academy
Address: 5751 Rivertech Ct, Riverdale, MD 20737
Supervisor: Timothy Reedy
Mission: CPA aims to prepare its students for college by providing high-quality education and opportunities to earn college credit.

Issues Confronting Site:

A significant number of students at CPA come from lower income households. This places limitations on which experiences are available to a student, and can inhibit their exploration of different subjects.

Impact:

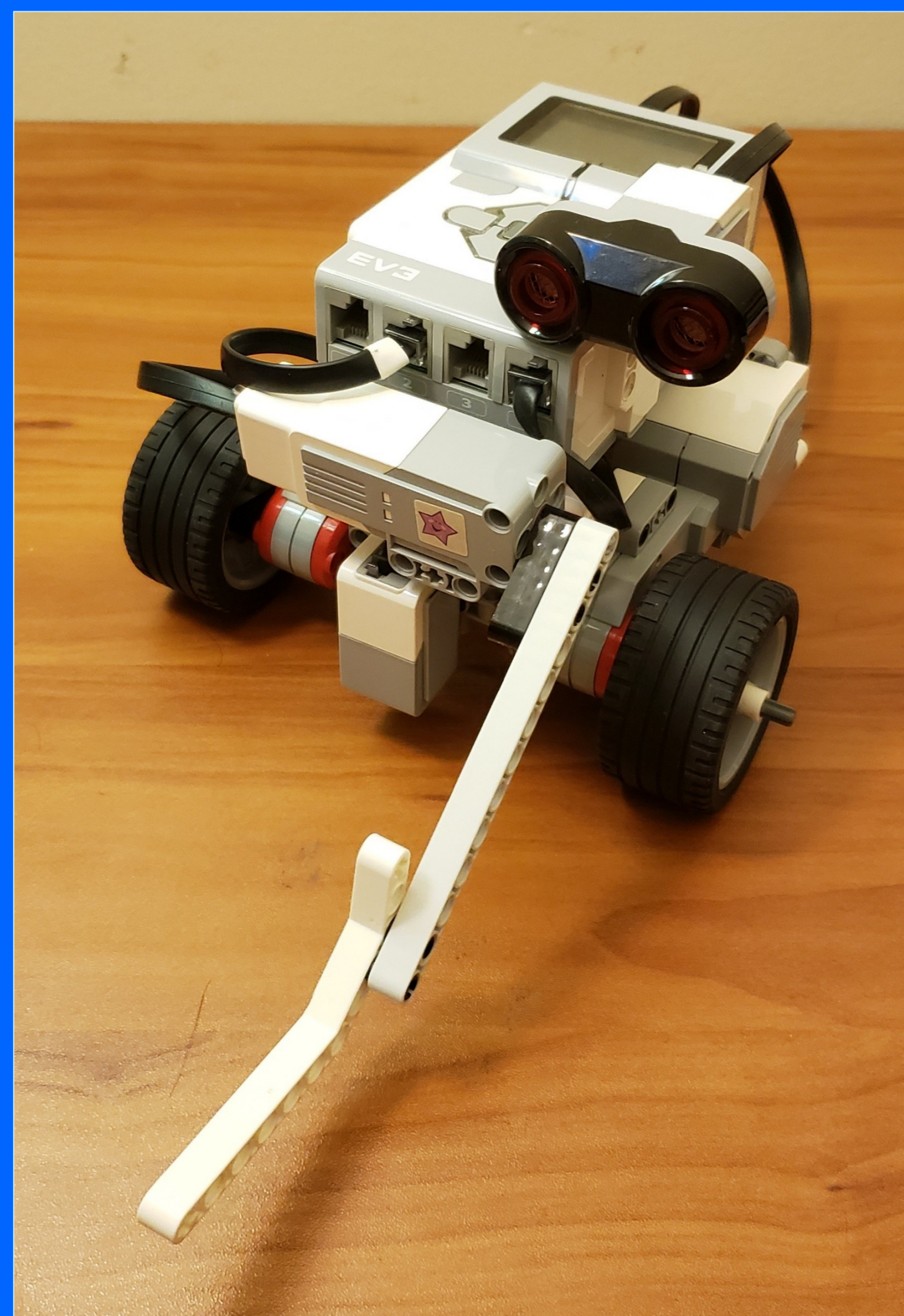
Both of our students had prior coding knowledge coming into this semester, and one is considering getting into computer science in the future. Hopefully, going through these classes with two computer science majors has given them a better feel for what they might encounter in the future. As for myself, the experience has taught me that teaching well requires not only adequate technical skills, but also immense flexibility and creativity.

What's Next:

Our work most likely won't have a lasting impact on College Park Academy. However, I would like to think that it will have a lasting impact on our students.

Activities:

As a robotics instructor, I am responsible mainly for two things. First, I help plan lessons, and second, I try to execute the plans without being boring. To keep our lessons interesting, we designed a fancy robot (right) that can pick things up.



Lesson Plans:

To create our lesson plans, we first made a broad plan for the whole semester, then we made more specific lesson plans depending on which sensors and coding blocks we wanted to cover that week. The end goal is to code the robot through an obstacle course.



Acknowledgements:

I would like to thank Dr. Reedy for arranging this opportunity and guiding me through the teaching process. I would also like to thank Dr. Holtz and Dr. Merck for three semesters of excellent lectures, two years of mentorship, and one van ride full of obscure music trivia.

