Iowa Standards Alignment with Python with Robots Curriculum

2 (Grades 6-8 / Ages 11-14)	Unit 1	Unit 2	Unit 3	Unit 4
Computing Systems				
2-CS-01 Recommend improvements to the design of computing devices, based on an analysis of how users interact with the devices.				
2-CS-02 Design projects that combine hardware and software components to collect and exchange data.	▒	▒	▒	▒
2-CS-03 Systematically identify and fix problems with computing devices and their components.	▒	▒	▒	▒
Networks & the Internet				
2-NI-04 Model the role of protocols in transmitting data across networks and the Internet.				
2-NI-05 Explain how physical and digital security measures protect electronic information.				
2-NI-06 Apply multiple methods of encryption to model the secure transmission of information.				
Data and Analysis				
2-DA-07 Represent data using multiple encoding schemes.				
2-DA-08 Collect data using computational tools and transform the data to make it more useful and reliable.				
2-DA-09 Refine computational models based on the data they have generated.				
Algorithms and Programming				
2-AP-10 Use flowcharts and/or pseudocode to address complex problems as algorithms.	▒	▒	▒	▒
2-AP-11 Create clearly named variables that represent different data types and perform operations on their values.	▒	▒	▒	▒
2-AP-12 Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals.	▒	▒	▒	▒
2-AP-13 Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs.	▒	▒	▒	▒
2-AP-14 Create procedures with parameters to organize code and make it easier to reuse.	▒	▒	▒	▒
2-AP-15 Seek and incorporate feedback from team members and users to refine a solution that meets user needs.	▒	▒	▒	▒
2-AP-16 Incorporate existing code, media, and libraries into original programs, and give attribution.	▒	▒	▒	▒
2-AP-17 Systematically test and refine programs using a range of test cases.	▒	▒	▒	▒
2-AP-18 Distribute tasks and maintain a project timeline when collaboratively developing computational artifacts.	▒	▒	▒	▒
2-AP-19 Document programs in order to make them easier to follow, test, and debug.	▒	▒	▒	▒
Impacts of Computing				
2-IC-20 Compare tradeoffs associated with computing technologies that affect people's everyday activities and career options.				
2-IC-21 Discuss issues of bias and accessibility in the design of existing technologies.				
2-IC-22 Collaborate with many contributors through strategies such as crowdsourcing or surveys when creating a computational artifact.				
2-IC-23 Describe tradeoffs between allowing information to be public and keeping information private and secure.				