

CodeX Remix Task

MISSION 12: Night Light	PROJECT: People Counter	# HOURS: 1
PROJECT GOALS: Students will remix the night light to create a program that counts the number of times a person crosses its path.	EXTRA PROJECT MATERIALS: <ul style="list-style-type: none"> • none 	VOCABULARY: <ul style="list-style-type: none"> • Analog • Digital
LEARNING TARGETS: <ul style="list-style-type: none"> • I can apply input and output values to a program. • I can explain the differences between analog and digital I/O. • I can explain the differences between reading and writing I/O. • I can use variables to calculate and convert measurements. 		
SUCCESS CRITERIA: <ul style="list-style-type: none"> <input type="checkbox"/> Detect how many times someone has walked by the sensor. <input type="checkbox"/> Display the count with a button press. <input type="checkbox"/> Reset the count with a button press. 		

RUBRIC:

CSTA Standard	Basic (3)	Proficient (4)	Mastered (5)
Documentation			
2-AP-10 Use flowcharts and/or pseudocode to address complex problems as algorithms.	Incomplete flowcharts.	Flowcharts provided for each process.	Flowcharts provided for each process. Evidence of revisions and improvements made.
Algorithms and Programming			
2-AP-12 Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals.	No loops or conditionals.	Loops or conditionals used correctly in most instances.	Loops or conditionals are used correctly in each process as needed.
2-AP-13 Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs.	Code is not organized or readable. No comments.	Code is sometimes organized into problems and subproblems in order to make it organized and readable. Comments used inconsistently.	Code is decomposed into problems and subproblems, making it easy to follow and read. Comments are clear and easy to understand.
Computing Systems			
2-CS-02 Design projects that combine hardware and software components to collect and exchange data.	No hardware used; hardware does not collect or exchange data correctly.	Hardware and software components incorporated; collects and exchanges data inconsistently.	Hardware and software components are incorporated; collects and exchanges data consistently.
Collaboration			
2-AP-15 Seek and incorporate feedback from team members and users to refine a solution that meets user needs.	Team members did not work together; strengths or suggestions of each member were not incorporated.	Team members usually worked effectively as a team; strengths and ideas of each member were incorporated somewhat unequally.	Team members worked effectively; the strengths and ideas of each member were incorporated.
2-AP-18 Distribute tasks and maintain a project timeline when collaboratively developing computational artifacts.	Unequal contributions from each team member; project not completed by deadline.	Somewhat equal contributions from each team member. Project completed on time, but may have needed revisions past deadline.	Team members contributed equally; project completed on time.
Debugging			
2-CS-03 Systematically identify and fix problems with computing devices and their components.	Code bugs not identified; little or no documentation of fixes.	Code bugs mostly identified and fixed; adequate documentation of fixes.	Code bugs identified and fixed; extensive documentation of fixes.