**AP CSP CodeBot**

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| **Unit 3 Remix Planning Guide** | Name: |
| **Remix Step 1: Review your programs from Mission 6 and 7** | |
| Mission 6: CheckLines.  What does the program do? What programming concepts did you learn and use? |  |
| Mission 6: LineFollow1.  What does the program do? What programming concepts did you learn and use? |  |
| Mission 7: HotPursuit.  What does the program do? What programming concepts did you learn and use? |  |
| **Remix Step 2: Remix Project Concept** | |
| Look over the remix suggestions. Discuss with a partner. Then decide what you want to do for your remix project. Describe what your remix project will do: |  |
| **Remix Step 3: Plan your code. What variables will you use in the project?**  Fill out the charts below. Use another piece of paper to design your program with a flowchart or pseudocode. | |
| What variables will you use in the project? Fill in the chart. You do not need to fill in every line, or you can add more. | |  |  | | --- | --- | | Variable Name | What it will be used for: | |  |  | |  |  | |  |  | |
| What buttons will you use, and what will happen when pressed? | |  |  | | --- | --- | | Button | What will happen: | |  |  | |  |  | |
| What will you use the user LEDs and line sensor LEDs for? What about the speaker? |  |
| Will you use the line sensors? If so, what is their purpose? |  |
| Will you use the proximity sensors? If so, what is their purpose? |  |
| What are some functions you can define and use? Will they need parameters? | |  |  | | --- | --- | | Function name | What it will do | |  |  | |  |  | |  |  | |
| **Use a piece of paper to write an algorithm for your project.** What happens first, then next? This algorithm will help you get started. Think about:   * What libraries do you need to import? * What variables will you define at the beginning of your code? * Are there functions you can program at the beginning? * What happens in the main program? What will happen in the button presses? | |
| **Remix Step 4: Write your code** | |
| Use the sandbox  when you write the code. Start a new file. Write just a few lines at a time and test often.  Include blank lines and comments for readability and documentation. | |
| **Remix Step 5: Feedback and Revise** | |
| **Peer feedback:** Get feedback from two (or more) people. You can be one of the peer reviewers. | |
| Peer Review #1 Name: |  |
| Go through the checklist. Are all requirements met? If not, list any missing criteria. |  |
| What do you like about the program – be specific! |  |
| Give at least one suggestion. Begin with “what if” or “maybe you could”: |  |
| Peer Review #2 Name: |  |
| Go through the checklist. Are all requirements met? If not, list any missing criteria |  |
| What do you like about the program – be specific! |  |
| Give at least one suggestion. Begin with “what if” or “maybe you could”: |  |
| Review the comments. Then take time to improve or add to your project. | |
| **Post-Remix Reflection** | |
| What did you change in your project after reading the feedback? |  |
| What is something new you learned from completing this project? |  |

**Rubric Checklist:**

* Filename is descriptive
* Uses one or more variables, each with a descriptive name
* Program has at least one function
* Program uses functions appropriately – defined when needed
* Moves the CodeBot forward and/or backward one or more times
* Turns the CodeBot one or more times
* Uses either the lines sensors or the proximity sensors (or both) to control the CodeBot
* Turns on one or more LED lights
* Uses one or both buttons as input
* Includes something extra (sounds, more than one sensor, more than one function, etc)
* Optional - uses a binary number to turn on an LED
* Includes comments and whitespace for readability
* Code follows programming conventions of indenting, punctuation and capitalization
* Code runs with no errors