

VEXcode VR Lab Schedule

Unit D: VEXcode VR Programming-Control Blocks (Decision Making)

Control Structure – Specifies the order of execution of instructions; There are three different control structures.

Sequential Structure:

The program executes the instructions from beginning to end in predefined order. It always executes the next instruction in order after it finishes the current instruction. It cannot choose what next instruction to execute. Sequential structure is the default structure. No special instructions or blocks are needed to create this structure.

Loop (Repetition) Structure:

The program can repeatedly perform a sequence of instructions for certain amount of time or based on certain condition. Repetition instructions or blocks are used to create the loop structure.

Decision Structure:

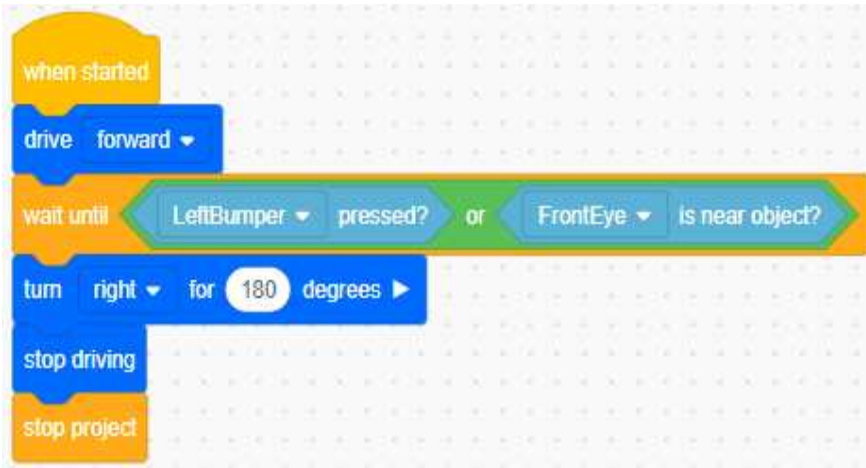
The program can choose what next instruction(s) it will execute based on certain condition which is determined during the runtime. Decision instructions or blocks are used to create the decision structure.

Decision Making Blocks:

1. if <cond> then
2. if <cond> then – else
3. Hexagon blocks: return True or False, used to represent <cond>
4. Use “**sensing**” blocks for condition
5. **Example 1:** Program the robot to drive forward. When it bumps into or gets close to the wall, it turns 180° and stops.
6. **Example 2:** Program the robot to drive forward. When it has passed the middle point (Y=0), It will turn either left or right 90° in random and then stop.

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Example 1:



Example 2:

