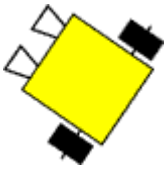


CISC 1003

Group #: ____ Name: 1. _____

2. _____

3. _____

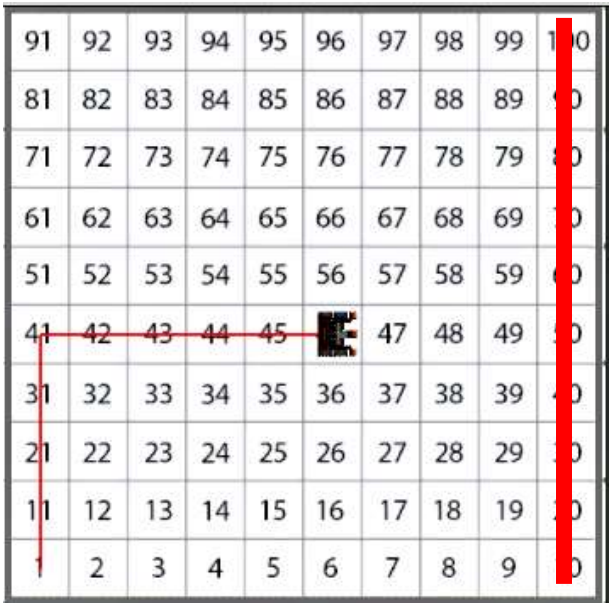
Spring, 2022
Section T8

Unit C – Lab Assessment

Instructions:

1. For each project, first create an algorithm describing in detail how the robot solves the problem step by step. Write your algorithm in plain English as a numbered list of executable steps. Then create a corresponding VEXcode VR program and test it to make sure it works.
2. Submit your finished two projects as five files: 1) one PDF file containing the algorithms for the two projects 2) two PDF files for the two project programs 3) two .vrblocks files for the two project programs.

Project #1:



Ignore the right-most column.

Your program will use one variable to store a randomly picked age (e.g. 46). Then program the robot to move to that age in **Number Grid Map** playground. Draw a **red** line as the robot moves to the age. The above figure shows how the robot moves to age 46. (Hint: The 1st digit specifies how many rows to drive up. The 2nd digit minus 1 specifies how many columns to drive to the right. Divide the age by 10. The quotient is the 1st digit and the remainder is the 2nd digit of the age. Use ***floor*** operator to find the quotient. Use ***remainder*** operator to find the remainder.)

Project #2:

Program the robot to draw a regular hexagon (all sides and interior angles are equal and the total angle is 720°) in **Grid Map** playground. You must use a repetition block (repeat, while, etc).