Robot Programming Lab #13 Select and Macros JD Jones and John Nelson

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Point Value = \_\_\_\_\_\_\_\_\_\_\_/ 50 points

In this lab you will be learning how the Select command and Macros work. Create a new program.

Lets understand the SELECT command.

Simple terms a SELECT command is a combination of an IF statement with multiple answers. It can be used with Call or Jumps. Here is an example,

i. Program called MAIN

1. J P[1] 100% Fine

2. Select R[1] = 1, Call ProgA

= 2, Call ProgB

= 3, Call ProgC

= 4, Call ProgD

Else, Jmp Lbl [2]

3. J P[2] 100% Fine

4. Lbl [2]

5. End

What will happen in this program is whatever the value of R [1] is it will call that program. If R [1] is not 1-4 then it will jump to label 2.

TASK: In your program create a SELECT command to choose what program to run. If the R [ x] is equal to 0 have it look again. Use what you already have learned about loops to accomplish this task.

The other topic to cover in this lab is MACROS. You have been using a Macro this entire time. It is how you open and close the gripper. Shift Tool 1 and Tool 2. Lets look at is closer. Lets go to the TP.

Press Menu

Choose Setup

Choose Macros and press enter

You will see multiple columns.

Instruction = Describes what the macro is.

Program = The program that will run when the macro is activated.

Type = SU and UK This is if the Shift button is pressed or not.

SU = Shift pressed this can be movement programs.

UK = Shift not pressed this can NOT be movement programs. The shift key must be pressed to move the robot.

# = the key the macro is assigned.

The numbering of the keys is very strange. Here is the layout.

Tool 1 = 1

Tool 2 = 2

Move menu = 3

Down to POSN the bottom left is = 7.

These keys are programmed.

**What is the name of the program for Shift Tool 1 macro? \_\_\_\_\_\_\_\_\_\_\_\_**

Open and look at that program. Explain to the instructor what is happening in that program.

Program a macro other than 1, 2 or 3.

Be ready to demonstrate the following to the instructor.

Points for

A) Select program is functional. 20 pts

B) Macro Tool 1 program name and explanation. 15 pts

C) Programming a macro. 15 pts

INSTRUCTOR’S INITIAL\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_