CSCI-21 Lab #3 Due 2/28/22 Name Travis Linn

Please do, and turn in, the first part by yourself. You may work in groups of two or three on the program.

Using the shift-and-add algorithm for multiplication, multiply the following. "Shift" the left-hand operand "right" and the right-hand operand "left". Check your work by multiplying the normal way. Show your work.

29 * 48

~~14~~	~~96~~
7	192
3	384
1	768

768
384
192
+ 48
1392

48
29
432
96
1392 ✓

74 * 12

37	24
~~18~~	~~48~~
9	96
~~4~~	~~192~~
~~2~~	~~384~~
1	768

768
96
24
888

74
12
148
74
888 ✓

39 * 15

19	30
9	60
~~4~~	~~120~~
~~2~~	~~240~~
1	480

480
60
30
15
585

39
15
195
39
585 ✓

~~18 * 73~~

9	146
~~4~~	~~292~~
~~2~~	~~584~~
1	1168

1168
146
1314

73
18
584
73
1314 ✓

Write a MIPS program to evaluate the polynomial $4x^3 + 2x^2 - 5x + 3$. Initialize a variable x and load x into a register to use in the calculations. Store the result in a memory location called y, then retrieve y to print with a short description like "result = ". Use Horner's method to evaluate the polynomial. Test by changing the value in x and re-running.