**Build of all functions.**

Algorithm

*NB: the Algorithm and flowchart are using basically 2\*2 matrix but then the program would work with both the 2\*2 matrix and the 3\* matrix and the user would be asked of which of the types he would like to use. The only operation that uses just the 2\*2 matrix is the Inverse function.*

1. Start

2. Enter matop

1 for finding transpose

2 for summing two matrices

3 for subtracting two matrices

4 for finding the determinant

5 for finding the values of x, y, and z

6 for multiplying a matrix for a constant

7 for multiplying two matrices

8 for finding the inverse of matrix

3. If matop is 1, enter MatA values; a,b,c,d. TransMatA is a,c,b,d. Display TransMatA

4. If matop is 2, enter MatA values; a1,b1,c1,d1, MatB values; a2,b2,c2,d2. MatSum is a1+a2, b1+b2, c1+c2,d1+d2 Display MatSum

5. If matop is 3 enter MatA values; a1,b1,c1,d1, MatB values; a2,b2,c2,d2. MatSub is a1-a2, b1-b2, c1-c2, d1-d2 Display MatSub

6. If matop is 4 enter MatA values, a,b,c,d DetA is a.c-b.d Display DetA

7. If matop is 5 enter MatA vlaues, a,b,c,d. Find DetA. Find DetAx. Find DetAy. x=DetAx/Deta y=DetAy/DetA. Display x and y.

8. If matop is 6 enter MatA values a,b,c,d. Enter const. CmatA is c.a, c.b, c.c, c.d. Display CmatA.

9. If matop is 7 enter MatA values; a1,b1,c1,d1, MatB values; a2,b2,c2,d2. MulMat is a1.a2+b1.c2, a1.b2+b1.d2, c1.a2+d1.c2, c1.b2+d1.d2. Display MulMat.

10. If matop is 8 enter MatA values; a,b,c,d. Find DetA. InvrsMatA is d/DetA, -b/DetA, -c/DetA, a/DetA.

11. Stop.