Graph 1.txt
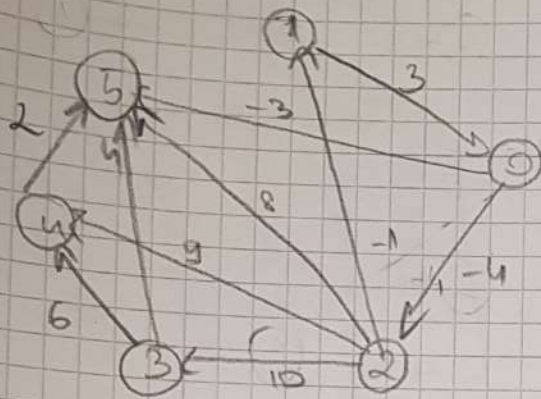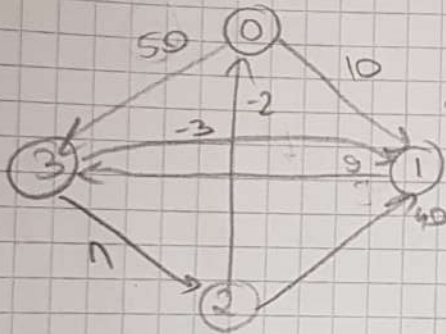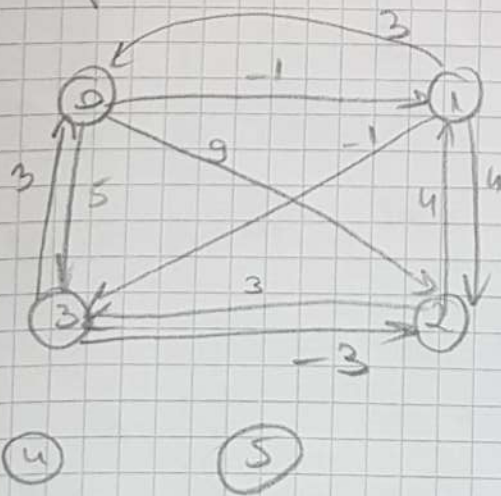
Negative
cycles

Graph 2.txt

Graph 3.txt

No path

For graph 3.txt

Intermediate matrices

$$A_1 = \begin{bmatrix} 0 & -1 & 9 & 5 & \infty & \infty \\ 3 & 0 & 4 & -1 & \infty & \infty \\ 2 & 4 & 0 & 3 & \infty & \infty \\ 30 & 8 & -3 & 0 & \infty & \infty \\ \infty & \infty & \infty & \infty & 0 & \infty \\ \infty & \infty & \infty & \infty & \infty & 0 \end{bmatrix}$$

$$A_2 = \begin{bmatrix} 0 & -1 & 2 & -2 & \infty & \infty \\ 3 & 0 & -4 & -1 & \infty & \infty \\ 7 & 5 & 0 & 3 & \infty & \infty \\ 3 & 7 & -3 & 0 & \infty & \infty \\ 9 & \infty & \infty & \infty & 0 & \infty \\ \infty & \infty & \infty & \infty & \infty & 0 \end{bmatrix}$$

$$A_4 = \begin{bmatrix} 0 & -1 & -5 & -2 & \infty & \infty \\ 3 & 0 & -4 & -1 & \infty & \infty \\ 7 & 4 & 0 & 3 & \infty & \infty \\ 4 & -1 & -3 & 0 & \infty & \infty \\ 8 & \infty & \infty & \infty & 0 & \infty \\ 8 & \infty & \infty & \infty & \infty & 0 \end{bmatrix}$$

$$A_8 = \begin{bmatrix} 0 & -1 & -5 & -2 & \infty & \infty \\ 3 & 0 & -4 & -1 & \infty & \infty \\ 7 & 4 & 0 & 3 & \infty & \infty \\ 4 & -1 & -3 & 0 & \infty & \infty \\ 5 & \infty & \infty & \infty & 0 & \infty \\ 8 & \infty & \infty & \infty & \infty & 0 \end{bmatrix} = A_{16}$$

Walk from 0 to 2.   0 1 32 with cost -5

graph 3.txt   (but without vertex 5)

° previous for matrix multiplication steps
  from 0 to 2

	P	d		P[d]	
unit	[-1,0,3,1,-1]	2	↑	3	=> call print-path
	[-1,0,3,1,-1]	3		↑	=> call
	[-1,0,3,1,-1]	↑		0	=> call
	[-1,0,3,1,-1]	0		-1	=> start print

=> 0,1,3,2