

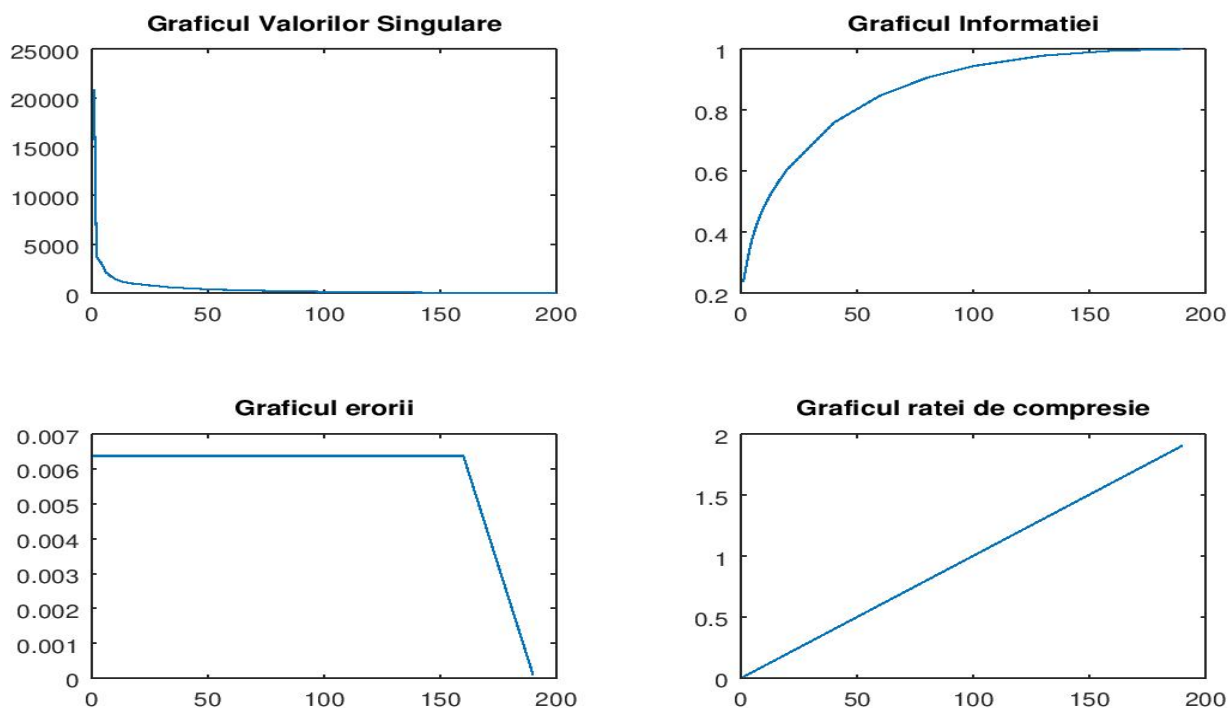
Tema 2 – Metode Numerice

Cernea David Andreas

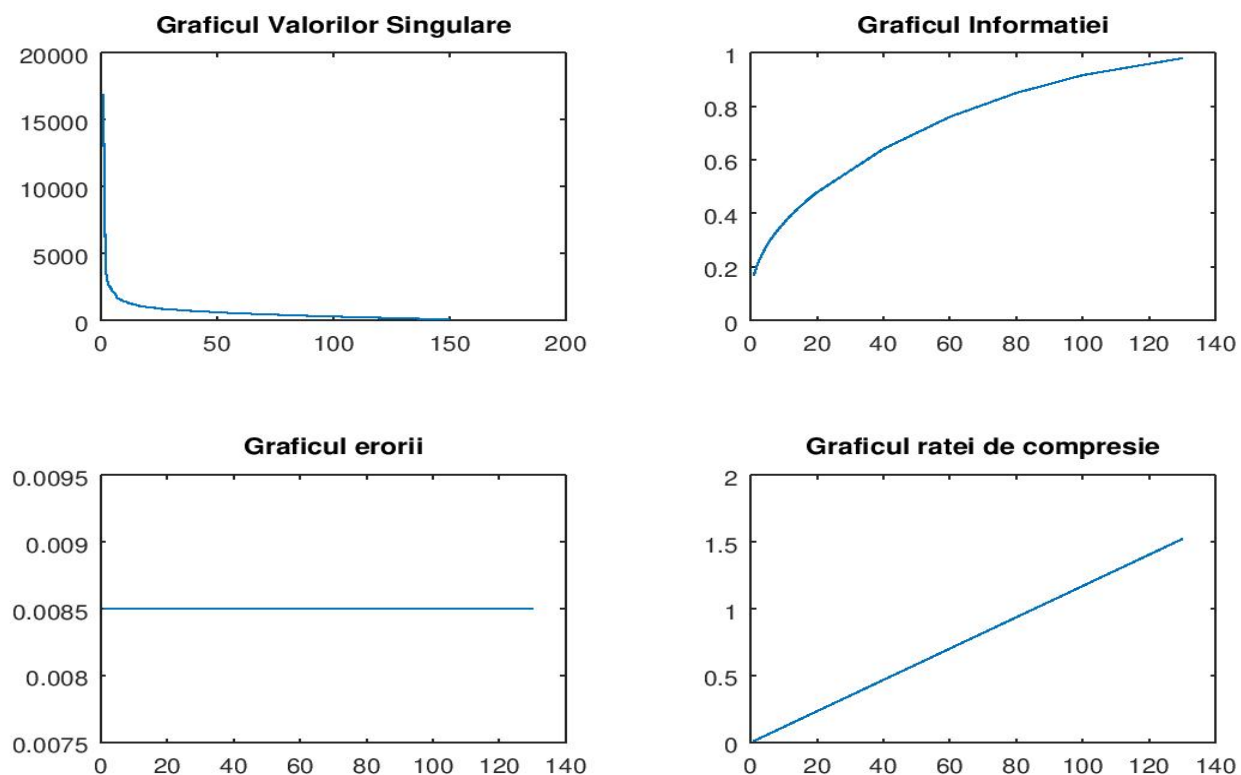
314CA

Cerinta 2

Imaginea 1

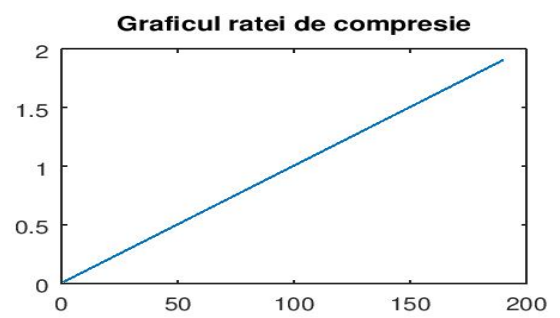
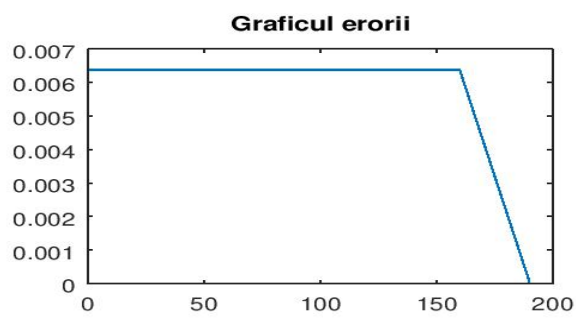
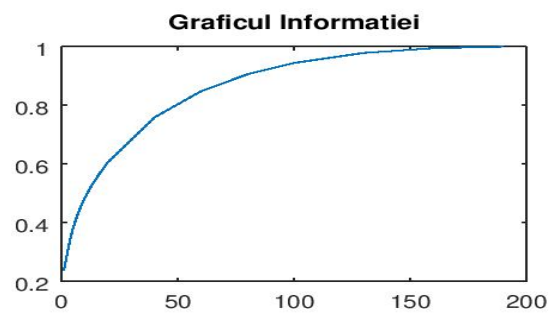
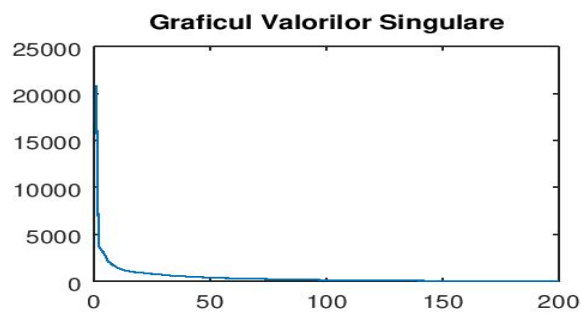


Imaginea 2

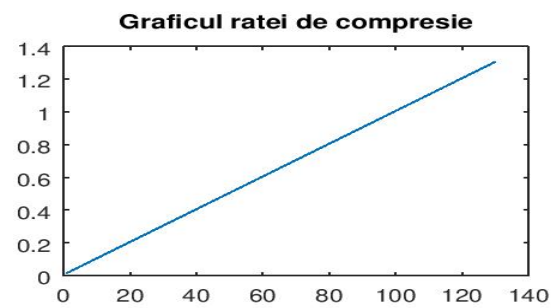
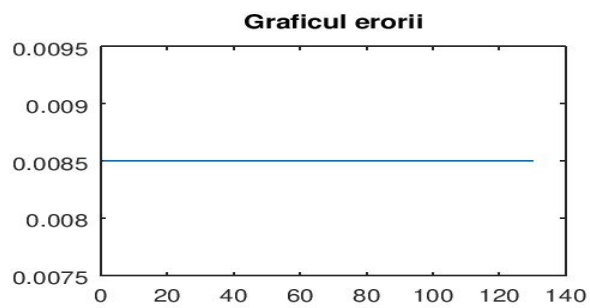
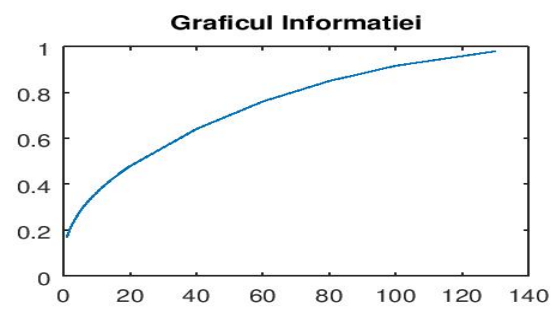
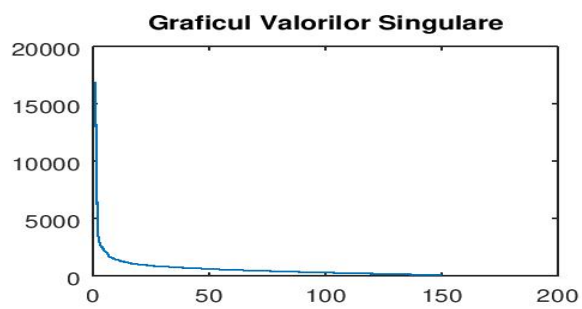


Cerinta 5

Imaginea 1



Imaginea 2



Interpretarea graficelor

Cum informatia imaginii este retinuta in valorile singulare ale matricei acestei imagini. Deci, cu cat valoarea singulara este mai mica, cu atat cantitatea de informatie din imagine este mai mica. Valorile singulare fiind ordonate descrescator, claritatea imaginii ramane ridicata chiar daca scoatem un numar mic de linii si coloane din matricea S .

Se observa ca si svd din Octave si algoritmul de la cerinta 3 produc compresii bune ale imaginilor.

Din graficele informatiei, se observa ca pentru k foarte mic se pierde multa informatie, insa imaginea ramane totusi clara deoarece cele k valori alese pastreaza elementele esentiale ale imaginii.

Din al treilea grafic se observa ca pentru $k \geq 15$, imaginile devin suficient de clare.

Graficul ratei de compresie indica faptul ca aceasta creste liniar, odata cu k .