

MATH 365

Homework #1, Spring 2012

Due: Wednesday, Jan. 25

Given the following matrices

$$A = \begin{pmatrix} 0.7577 & 0.706 & 0.8235 & 0.4387 & 0.4898 & 0.276 & 0.4984 \\ 0.7431 & 0.0318 & 0.6948 & 0.3816 & 0.4456 & 0.6797 & 0.9597 \\ 0.3922 & 0.2769 & 0.3171 & 0.7655 & 0.6463 & 0.6551 & 0.3404 \\ 0.6555 & 0.0462 & 0.9502 & 0.7952 & 0.7094 & 0.1626 & 0.5853 \\ 0.1712 & 0.0971 & 0.0344 & 0.1869 & 0.7547 & 0.119 & 0.2238 \end{pmatrix} \in \mathbb{R}^{5,7},$$

$$B = \begin{pmatrix} 0.4314 & 0.5797 & 0.4018 & 0.0497 & 0.3692 \\ 0.9106 & 0.5499 & 0.076 & 0.9027 & 0.1112 \\ 0.1818 & 0.145 & 0.2399 & 0.9448 & 0.7803 \\ 0.2638 & 0.853 & 0.1233 & 0.4909 & 0.3897 \\ 0.1455 & 0.6221 & 0.1839 & 0.4893 & 0.2417 \\ 0.1361 & 0.351 & 0.24 & 0.3377 & 0.4039 \\ 0.8693 & 0.5132 & 0.4173 & 0.9001 & 0.0965 \end{pmatrix} \in \mathbb{R}^{7,5},$$

and

$$C = \begin{pmatrix} 0.1299 & 0.1622 & 0.602 & 0.4505 & 0.8258 & 0.1067 & 0.8687 \\ 0.5688 & 0.7943 & 0.263 & 0.0838 & 0.5383 & 0.9619 & 0.0844 \\ 0.4694 & 0.3112 & 0.6541 & 0.229 & 0.9961 & 0.0046 & 0.3998 \\ 0.0119 & 0.5285 & 0.6892 & 0.9133 & 0.0782 & 0.7749 & 0.2599 \\ 0.3371 & 0.1656 & 0.7482 & 0.1524 & 0.4427 & 0.8173 & 0.8001 \end{pmatrix} \in \mathbb{R}^{5,7},$$

and the vector

$$b = \begin{pmatrix} 0.1320 \\ 0.9421 \\ 0.9561 \\ 0.5752 \\ 0.0598 \end{pmatrix},$$

do the following expressions make sense? If so, write a code to compute them; if not, explain why.

- (i) $A + B$; (ii) $A - C$; (iii) Ab ; (iv) Bb ; (v) AB ; (vi) AC ; (vii) BC