Q1

Using the ones and zeros commands, create a 4 x 5 matrix in which the first two rows are 0s and the next two rows are 1s.

Q2

Create a row vector that has the following elements: $\frac{54}{3+4.2^2}$, 32 , $6.3^2 - 7.2^2$, 54 , $e^{3.7}$ and $\sin(66^0) + \cos(\frac{3\pi}{8})$

Q3

Create a column vector that has the following elements: $\frac{8^3}{1.7^2}$, $\sqrt{\sin(35^o)}$, 5.89, $\ln\left(\frac{11}{6}\right)$, 0.0846, $ln^2 20$ and 145

Q4

Define the variables a = 3.5, b=-6.4 and then use them to create a row vector that has the following elements: a , a^2 , $\frac{a}{b}$, $a.b$ and $\sqrt{a}$

Q5

Create a row vector with 9 equally spaced elements in which the first element is 81 and the last element is 12.

Q6

Create a column vector with 15 equally spaced elements in which the first element is –21 and the last element is 12.

Q7

Create a 6x6 matrix in which the middle two rows and the middle two columns are 1s, and the rest of the entries are 0s.

Q8

Given are a 5×6 matrix A, a 3×6 matrix B, and a 9-element vector v.

$$A = \begin{bmatrix} 2 & 5 & 8 & 11 & 14 & 17 \\ 3 & 6 & 9 & 12 & 15 & 18 \\ 4 & 7 & 10 & 13 & 16 & 19 \\ 5 & 8 & 11 & 14 & 17 & 20 \\ 6 & 9 & 12 & 15 & 18 & 21 \end{bmatrix} \qquad B = \begin{bmatrix} 5 & 10 & 15 & 20 & 25 & 30 \\ 30 & 35 & 40 & 45 & 50 & 55 \\ 55 & 60 & 65 & 70 & 75 & 80 \end{bmatrix}$$

$$v = \begin{bmatrix} 99 & 98 & 97 & 96 & 95 & 94 & 93 & 92 & 91 \end{bmatrix}$$

Create the three arrays in the Command Window, and then, by writing one command, replace the last four columns of the first and third rows of A with the first four columns of the first two rows of B, the last four columns of the fourth row of A with the elements 5 through 8 of v, and the last four columns of the fifth row of A with columns 2 through 5 of the third row of B.