Code:

```
Editor - /Users/sloanatkins/Documents/MATLAB/homework_one.m
   homework_one.m × Matrices_Manipulations.m × lecture4.m × +
  1
           clear
  2
           p = [12, 17, 3, 6];
  3
           q = [5,8,3;1,2,3;2,4,6];
           r = [22;17;4];
  4
  5
   6
           x1 = p(:,2)
  7
           x2 = q(:,3)
  8
           x3 = q(3,:)
           x4 = [diag(q)]
  9
 10
           x5 \equiv [p(1), p(2), p(3);q]
           x6 = [r, q; p]
 11
 12
           x7 = [q(1,:), q(2,:), q(3,:)]'
```

Output:

```
>> homework_one
                                           x5 =
                                               12
                                                     17
                                                           3
x1 =
                                                           3
                                                5
                                                     8
                                                      2
                                                           3
                                                1
    17
                                                           6
                                                2
x2 =
                                           x6 =
                                                      5
                                                                 3
                                               22
                                                           8
     3
                                               17
                                                      1
                                                           2
                                                                 3
     3
                                                4
                                                     2
                                                           4
                                                                 6
     6
                                               12
                                                     17
                                                           3
                                           x7 =
x3 =
                                                5
     2
          4
                 6
                                                8
                                                3
                                                1
x4 =
                                                2
                                                3
                                                2
     5
                                                4
     2
                                                6
     6
                                           >>
```

Text:

clear

$$p = [12,17,3,6];$$

$$r = [22;17;4];$$

$$x1 = p(:,2)$$

$$x2 = q(:,3)$$

$$x3 = q(3,:)$$

$$x4 = [diag(q)]$$

$$x5 = [p(1), p(2), p(3);q]$$

$$x6 = [r, q; p]$$

$$x7 = [q(1,:), q(2,:), q(3,:)]'$$