Optimization – Laboratory 6 Quasi-Newton method

The function in Section 4.3 is given by the number assigned in the column P4 from the status.

Requirements:

I. Quasi-Newton method

- Draw the contour plot of the function in Matlab.
- Calculate 3 steps on paper for *Quasi-Newton method*. Choose a constant step-size. Hint: a step-size of the order $\frac{1}{\|d_k\|}$ should be acceptable.
- Implement in MATLAB *Quasi-Newton method* with variable step. Implement both formulas used to compute *B*, which is used to obtain the direction.
- Draw the points obtained by your implementation on the contour plot. Does the trajectory converge to a minimum point? Compare the obtained results.

Hint: The tolerance for line search should be at least 100 times lower than the tolerance of the method.