In the present work we study the expressing of errors of quadrature and cubature formulae by Peano and Sard kernel. Firstly the Peano kernel of a quadrature formula and its generalization are defined, either are shown on the examples. Further the Peano kernel and its generalization are used for finding the optimal quadrature formula of Nikolskij's type. Furthermore there are the Sard kernels of a cubature formula for the square and the cube defined. There are in detail described Romberg's cubature formula and respective Sard kernels for both case. Further the Sard kernels of the trapezoidal rule and Romberg's cubature formula are used for estimation the error of these cubature formulae.