This thesis deals with the newsboy problem and its various modifications. The first part of the thesis mentions definitions and theorems that are essential for investigation of the optimal solution of the problem. In the second part, various formulations of newsboy problem are discussed and their solutions are presented. For instance, we use Sample Average Approximation method. In the final part, the results are applied to calculate Conditional Value-at-Risk (CVaR) and the thesis concludes with a numerical study programmed in R which compares parametric and nonparametric approach to the problem. The text is consecutively supplemented with graphs.