```
ln[9] = Quicksort = \{\{100, 1\}, \{1000, 1\}, \{10000, 5\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{100000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{10000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{1000000, 113\}, \{100
                                  \{1000000, 207\}, \{10000000, 2701\}, \{100000000, 54304\}\};
                    MergeSort = \{\{100, 0\}, \{1000, 1\}, \{10000, 5\}, \{100000, 19\},
                                  {1000000, 437}, {10000000, 5152}, {10000000, 58632}};
  log[t1]:= InsertionSort = {{100, 8}, {1000, 10}, {10000, 211}, {100000, 15157}};
  In[24]:= quickplot = ListLinePlot[Quicksort,
                             PlotLegends → {"Quick sort"}, PlotMarkers → Automatic, PlotStyle → Blue]
                    7000
                    6000
                    5000
                    4000

    Quick sort

Out[24]=
                    3000
                    2000
                    1000
                                                        5.0 \times 10^{6}
                                                                                           1.0 \times 10^{7}
                                                                                                                             1.5 \times 10^{7}
                                                                                                                                                              2.0 \times 10^{7}
                                                                                                                                                                                                2.5 \times 10^{7}
  In[25]:= mergeplot = ListLinePlot[MergeSort,
                             PlotLegends → {"Merge sort"}, PlotMarkers → Automatic, PlotStyle → Green]
                    12000
                    10000
                       8000
Out[25]=
                                                                                                                                                                                                                                         Merge sort
                       6000
                       4000
                       2000
                                                            5.0\times10^6
                                                                                             1.0 \times 10^{7}
                                                                                                                              1.5 \times 10^{7}
                                                                                                                                                                                                 2.5 \times 10^{7}
  In[26]:= Insertionplot = ListLinePlot[InsertionSort,
                             PlotLegends → {"InsertionSort sort"}, PlotMarkers → Automatic, PlotStyle → Red]
                    15000
                    10000
Out[26]=

    InsertionSort sort

                       5000
                                                              20 000
                                                                                                40 000
                                                                                                                                 60 000
                                                                                                                                                                  80000
                                                                                                                                                                                                   100 000
```

## In[30]:= Show[quickplot, mergeplot, Insertionplot, AxesLabel -> {"number of elements", "ms"}]

