CT-5102: Data Structure and Algorithm
Homework Assignment 1
Deadline: 01/03/2019
Total Mark: 10

- In a program, implement the following sorts as functions where each algorithm will sort the input in ascending order:
  - **i.** Insertion Sort
  - **ii.** Merge Sort
  - **iii.** Quick Sort
- While sorting, calculate the total number of comparison and total number of swapping.
- Run the program for each sort for the following inputs
  - **i.** 101-200 in already ascending order
  - **ii.** 200-101 in already descending order
  - **iii.** 101-200 in the following random order

195 134 144 141 145 197 177 101 196 146 175 173 154 171 111 136 115 162 165 192
131 142 120 185 102 181 107 198 106 176 121 178 119 128 193 127 123 143 155 186
191 122 132 158 129 183 163 180 103 188 150 151 172 118 174 170 104 130 116 117
112 139 194 147 153 164 169 199 148 138 200 190 126 152 161 179 149 137 133 110
159 113 140 160 105 184 182 135 114 125 168 189 124 108 187 166 156 109 167 157

- You can use C/C++/Java for the implementation.
- Fill out the following table from the program output to prepare a report

Algorithm	**No. of Comparison**	**No. of Swap**
Insertion Sort		
Merge Sort		
Quick Sort		

- **Submit a ZIP file with all the codes and report.**
- **COPYING CODE AND REPORT FROM ANYONE ELSE IS STRICTLY PROHIBITED. IF PLAGIARISM IS DETECTED, BOTH STUDENTS WILL GET ZERO.**