

**Homework Assignment-1 Submission Date: 8th March, 2019.**

**Term Project submitted for:**

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## Course Code: ICT 5102

## Course Name: Data Structure and Algorithm

**Post Graduate Diploma Program in (ICT),**

**Institute of Information and Communication Technology,BUET**

**Filling up the following table from the program output to prepare a report:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Algorithm** | **Input Type** | **No. of Comparison** | **No. of Swap** |
| **Insertion Sort** | 101-200 in already ascending order | 99 | 0 |
| 200-101 in already descending order | 5049 | 4950 |
| 101-200 in the following random order | 2662 | 2563 |
| ***Total*** | | ***7810*** | ***7513*** |
| **Merge Sort** | 101-200 in already ascending order | 100 | 102 |
| 200-101 in already descending order | 100 | 102 |
| 101-200 in the following random order | 196 | 102 |
| ***Total*** | | ***396*** | ***306*** |
| **Quick Sort** | 101-200 in already ascending order | 196 | 99 |
| 200-101 in already descending order | 196 | 99 |
| 101-200 in the following random order | 155 | 99 |
| ***Total*** | | ***547*** | ***297*** |

**Source Codes in C language [attached] below:**

|  |  |  |
| --- | --- | --- |
| **Insertion Sort** | **Merge Sort** | **Quick Sort** |
|  |  |  |