**COA LAB 07-08-2023 Monday**

**Assignment Number :** 1 **Problem Number :** 1

**Group Number :** 9 **Semester :** AUTUMN 2023

**Group Members :**

* Meduri Harshith Chowdary (21CS10042)
* Maddi Nihith (21CS10040)

**Observation Table :**

|  |  |  |  |
| --- | --- | --- | --- |
| **Input x** | **ex (Actual Value)** | **Taylor Series Approximate** | **Iterations** |
| 0 | 1 | 1 | 1 |
| 1 | 2.718 | 2 | 2 |
| 2 | 7.389 | 6 | 4 |
| 3 | 20.085 | 18 | 7 |
| 4 | 54.598 | 49 | 9 |
| 5 | 148.413 | 136 | 11 |
| 6 | 403.428 | 391 | 14 |
| 7 | 1096.633 | 1062 | 17 |
| 8 | 2980.957 | 2954 | 19 |
| 9 | 8103.084 | 7986 | 22 |
| 10 | 22026.465 | 21907 | 25 |
| 11 | 59874.142 | 59340 | 27 |
| 12 | 162754.791 | 162662 | 30 |
| 13 | 442413.392 | 439589 | 33 |
| 14 | 1202604.284 | 1201212 | 35 |
| 15 | 3269017.372 | 3254427 | 38 |
| 16 | 8886110.520 | 8876508 | 41 |
| 17 | 24154952.754 | 24070136 | 43 |
| 18 | 65659969.137 | 65658075 | 46 |
| 19 | 178482300.963 | 177985197 | 49 |
| 20 | 485165195.41 | 485038198 | 52 |
| 21 | 1318815734.5 | -209105815 | 54 |