**Project name: - Scientific Calculator**

**Requirement Analysis**

* **High Level Requirements**
  + Any calculator needs to have the highest speed and accuracy.
  + The system should be multifunctional.
  + The System should be user friendly and compact.
  + The smart calculator’s battery lifetime should be more.
  + The precision value should be high.
* **Low Level Requirements**
* The speed of the calculator, it should give output within seconds.
* The system functions need to be specified and work properly.
* The precision of the calculator should be more.
* The functions taking take input and process the output within nanoseconds.

**Requirement Mapping-**

**High level requirements-**

|  |  |
| --- | --- |
| **ID** | **Description** |
| 1 | Special functions like factorial,exponential,power must be included in the calculator. |
| 2 | Trigonometric functions like sine,cos,tan must be included to carry out trigonometric operations. |
| 3 | Binary operators like bitwise and,or,xor for processing the binary operations. |
| 4 | Square root, cube root, power functions to carry out complex calculations. |
| 5 | Precision should be high and speed should be in picoseconds |
| 7 | The functions should be selected and should produce correct output. |

**Low level requirements-**

|  |  |
| --- | --- |
| **ID** | **Description** |
| 1 | Symbols like +,-,\*,/ to carry out simple addition, substraction,multiplication and division to operations. |
| 2 | Must accept numbers from 0 to 9. |
| 3 | Calculator must be included with different calculation switching modes. |

**Table : High and Low Level Requirements.**