**2.Detailed Requirements**

**2.1.1 High level requirements**

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| **Req\_ID** | **High level requirements** | **Description** |
| Req\_01 | Arithmetic function | The four basic arithmetic operations are Addition,Subtraction,Multiplication,Division. |
| Req\_02 | Logical function | The seven logical operations(AND,OR,NOT,NOR,NAND,XOR,XNOR) take inputs that are either true(1) or false(0) and produce a single output as true or false. |
| Req\_03 | Conversions | Converting binary to decimal and binary to hexadecimal. |
| Req\_04 | Factorial | The product of a given positive integer multiplied by all lesser positive integers. |
| Req\_05 | Prime number | A positive integer that is not divisible without remainder by any integer except itself and 1. |

**2.1.2 Low level requirements**

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| **Req\_ID** | **Low level requirements** | **Description** | **Owner** |
| Req\_01 | Addition and subtraction | It produces the output as the sum of the two numbers irrespective of sign of the numbers. | Pavani |
| Req\_02 | Multiplication and division | Multiplication is [repeated addition](https://en.wikipedia.org/wiki/Multiplication_and_repeated_addition),number times a number  Division is to divide, a number splits into equal form using the second number | Saloni |
| Req\_03 | AND, OR | AND**-** The result of the operation is 1 if both the bits have the value as 1; otherwise, the result is always 0.  OR - The result of the operation is 1 if only one of the expressions has the value as 1; otherwise, the result is always 0. | Tulasi |
| Req\_04 | NOT,NOR,NAND | NOT- It produces an inverted version of the input as the output  NOR- It produces a low output if any of the inputs are high.  NAND- It produces a high output if any of the inputs are low. | Manushna |
| Req\_06 | Binary to decimal, binary to hexadecimal | BtoD-Converts binary numbers into decimal numbers.  BtoH- Converts binary numbers into Hexadecimal numbers. | Dinesh |
| Req\_07 | Decimal to binary,hexadecimal to binary | DtoB: Converts decimal numbers into binary numbers.  HtoB: Converts hexadecimal numbers into binary numbers | Sri karani |
| Req\_08 | Exponential function | It produces the exponential value of e (Euler's number) | Alen |
| Req\_09 | Factorial, Prime number | The factorial of positive integer n, denoted by n! Is the product of all integers less than equal to n.  A prime number is a natural number greater than 1 that is not a product of two natural numbers. | Mokshith |