

## SOFTWARE TESTING

1. Choose any problem statement of your choice and do following.
  - a. Explain the case study of the problem (minimum 400 words)

### Calculator Case Study

Calculator which perform functions of Addition, Multiplication, Division, Subtraction and also take the average of three numbers. There are five functions **Add(), sub(), mul(), div(), Average()**. Every function has two parameter of integer type except Average function has three parameters of integer type. There is ranges are define for every variable for the function, and these ranges are define as:

#### Add () Function:

Variable number: 1 – 50

Variable number2: 51 – 100

#### Sub() Function:

Variable number: 51 – 100

Variable number2: 1 – 50

#### mul() Function:

Variable number: 1 – 100

Variable number2: 101 – 200

#### div() Function:

Variable number: 30 – 50

Variable number2: 1 – 29

#### Average() Function:

Variable number1: 1 – 100

Variable number2: 101– 200

Variable number3: 201- 300

In the main function, user first give a choice of what function they want to execute in the foam of number and it is then match the number with the cases in switch method when the number is match with the cases then it ask the user to enter the values and also show the ranges of the number, then it send those values to the function

## SOFTWARE TESTING

### Using strong robust equivalence classes

#### Test Cases for the function Average()

Case	Number1	Number2	Number3	Expected Result
1	0	100	200	Invalid
2	1	101	201	Valid
3	2	102	202	Valid
4	50	150	250	Valid
5	199	199	299	Valid
6	100	200	300	Valid
7	101	201	301	Invalid

#### Test Cases for the function Add()

Case	Number	Number2	Expected Result
1	0	50	Invalid
2	1	51	Valid
3	2	52	Valid
4	30	60	Valid
5	49	199	Valid
6	50	100	Valid
7	51	101	Invalid

#### Test Cases for the function Sub()

Case	Number	Number2	Expected Result
1	50	0	Invalid
2	51	1	Valid
3	52	2	Valid
4	60	30	Valid
5	199	49	Valid
6	100	50	Valid
7	101	51	Invalid

#### Test Cases for the function Mul()

Case	Number	Number2	Expected Result
1	0	100	Invalid
2	1	101	Valid
3	2	102	Valid
4	80	180	Valid
5	199	199	Valid
6	100	200	Valid
7	101	201	Invalid

## SOFTWARE TESTING

### Test Cases for the function Div()

Case	Number	Number2	Expected Result
1	29	0	Invalid
2	30	1	Valid
3	31	2	Valid
4	40	20	Valid
5	49	28	Valid
6	50	29	Valid
7	51	30	Invalid