

Business Case:

Course Name: OOP

Section: A

Student ID: 101, 202, 111

Attendance: 0-8 (Max)

Presentation: 12 (Max)

Quiz: 10 (Max)

Mid: 30 (Max)

Final: 40 (Max)

Submit Student's Results

Course Name:

Section:

Student ID:

Attendance:

Presentation:

Quiz:

Mid:

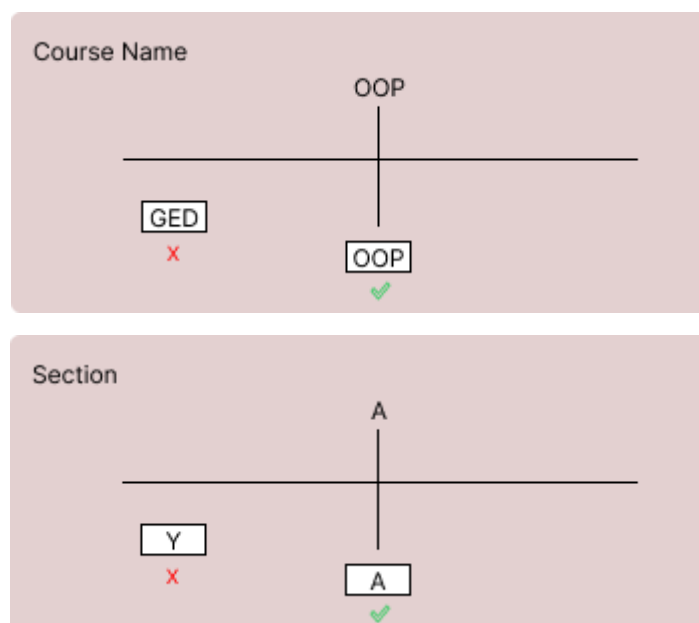
Final:

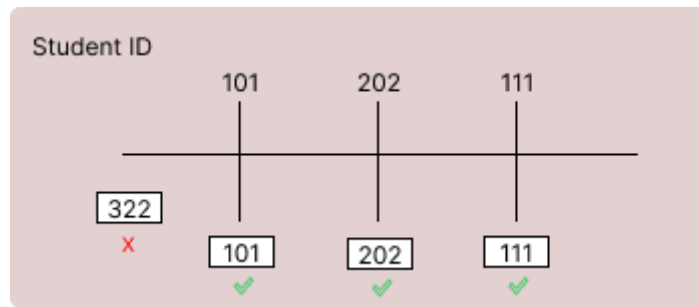
Analyzing Business Case:

- In the field of Course Name, only "OOP" is valid value. Other than that, all values are invalid.
- Same as previous one, values other than "A" are invalid values.
- In Student ID field, it will take only three values and they are 101, 202, 111. All values other than these three will be marked as invalid.
- Attendance field will take values within the range of 0-8. Values lower than 0.00 and values higher than 8.00 will be considered as invalid.
- As like Attendance field, Presentation, Quiz, Mid and Final fields will also take values within the range of 0.00-12.00, 0.00-10.00, 0.00-30.00 and 0.00-40.00 respectively.

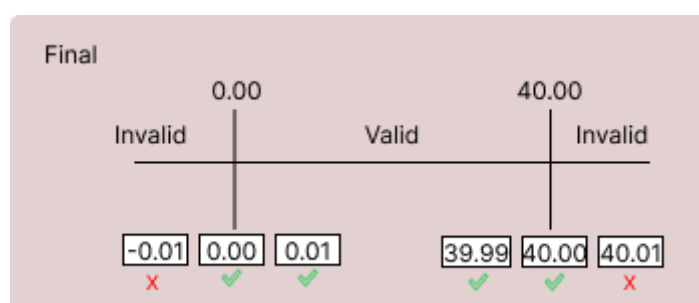
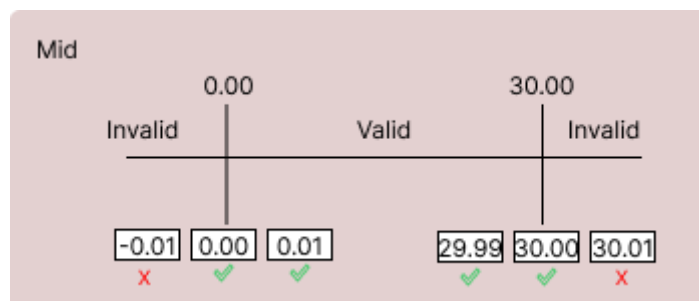
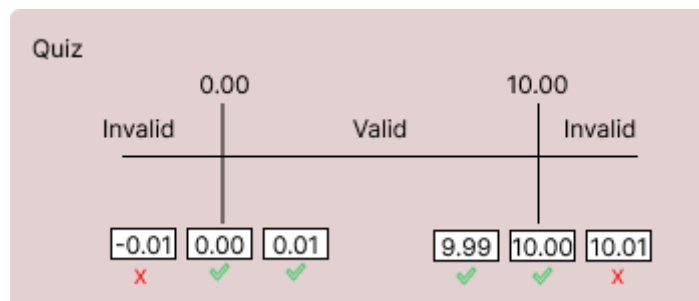
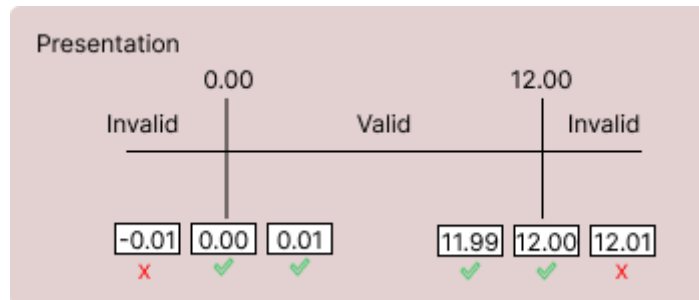
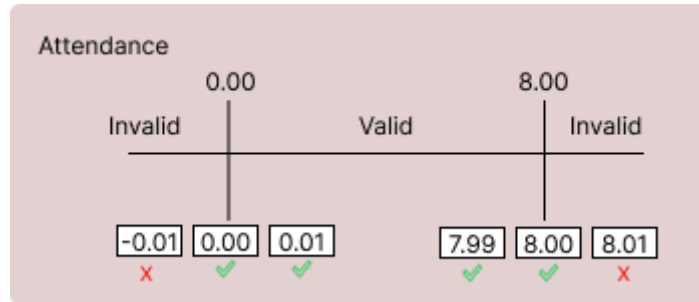
Preparing Data for Test Cases: After analyzing business cases, we found 3 fields of static values and 5 fields of range values. We can develop test cases in two parts. Firstly 3 fields can be tested through Equivalence Class Partitioning and rest of the 5 fields can be tested through Boundary Values as they have a range of data.

Equivalence Classes:





Boundary Value Analysis:



Equivalence Class Partitioning:

Variable	Equivalence Class	Representative	Status
Course Name	EC: $x = \text{OOP}$	OOP	Valid
	EC: $x \neq \text{OOP}$	GED	Invalid
	EC: x non character value	123	Invalid
Section	EC: $x = \text{A}$	A	Valid
	EC: $x \neq \text{A}$	Y	Invalid
	EC: x non character value	321	Invalid
Student ID	EC: $x = 101$	101	Valid
	EC: $x = 202$	202	Valid
	EC: $x = 111$	111	Valid
	EC: $x \neq 101/202/111$	322	Invalid
	EC: x non numeric value	xyz	Invalid

Boundary Value Analysis:

Variable	Boundary Values	Representative	Status
Attendance	BV: $0.00 \leq X \leq 8.00$	-0.01	Invalid
		0.00	Valid
		0.01	Valid
		7.99	Valid
		8.00	Valid
		8.01	Invalid
	EC: x non numerical Value	Abc	Invalid
Presentation	BV: $0.00 \leq X \leq 12.00$	-0.01	Invalid
		0.00	Valid
		0.01	Valid
		11.99	Valid

		12.00	Valid
		12.01	Invalid
	EC: x non numerical Value	xyz	Invalid
Quiz	BV: $0.00 \leq X \leq 10.00$	-0.01	Invalid
		0.00	Valid
		0.01	Valid
		9.99	Valid
		10.00	Valid
		10.01	Invalid
	EC: x non numerical Value	Fred	Invalid
Mid	BV: $0.00 \leq X \leq 30.00$	-0.01	Invalid
		0.00	Valid
		0.01	Valid
		29.99	Valid
		30.00	Valid
		30.01	Invalid
	EC: x non numerical Value	Abcd	Invalid
Final	BV: $0.00 \leq X \leq 40.00$	-0.01	Invalid
		0.00	Valid
		0.01	Valid
		39.99	Valid
		40.00	Valid
		40.01	Invalid
	EC: x non numerical Value	Jkl	Invalid

Test Cases:

- All test cases:
 - 39 test cases are derived: **18 positive (valid value) and 21 negative (invalid values)**

[illegible]

Quiz	Invalid	-0.01										
	Valid	0.00	*	*	*	*	*	*	*	*	*	*
	Valid	0.01										
	Valid	9.99										
	Valid	10.00										
	Invalid	10.01										
	Invalid	Fred										
Mid	Invalid	-0.01										
	Valid	0.00	*	*	*	*	*	*	*	*	*	*
	Valid	0.01										
	Valid	29.99										
	Valid	30.00										
	Invalid	30.01										
	Invalid	Abcd										
Final	Invalid	-0.01										
	Valid	0.00	*	*	*	*	*	*	*	*	*	*
	Valid	0.01										
	Valid	39.99										
	Valid	40.00										
	Invalid	40.01										
	Invalid	Jkl										
Expected Result			P	F	F	F	F	P	P	F	F	F

[illegible]

[illegible]

	Valid	40.00												
	Invalid	40.01												
	Invalid	Jkl												
Expected Result			P	P	P	F	F	F	P	P	P	F	F	F

Variable	Status	Representative	TC35	TC36	TC37	TC38	TC39
Course Name	Valid	OOP	*	*	*	*	*
	Invalid	GED					
	Invalid	123					
Section	Valid	A	*	*	*	*	*
	Invalid	Y					
	Invalid	321					
Student ID	Valid	101	*	*	*	*	*
	Valid	202					
	Valid	111					
	Invalid	322					
	Invalid	xyz					
Attendance	Invalid	-0.01					
	Valid	0.00	*	*	*	*	*
	Valid	0.01					
	Valid	7.99					
	Valid	8.00					
	Invalid	8.01					
	Invalid	Abc					
Presentation	Invalid	-0.01					
	Valid	0.00	*	*	*	*	*
	Valid	0.01					
	Valid	11.99					
	Valid	12.00					

	Invalid	12.01					
	Invalid	xyz					
Quiz	Invalid	-0.01					
	Valid	0.00	*	*	*	*	*
	Valid	0.01					
	Valid	9.99					
	Valid	10.00					
	Invalid	10.01					
	Invalid	Fred					
Mid	Invalid	-0.01					
	Valid	0.00	*	*	*	*	*
	Valid	0.01					
	Valid	29.99					
	Valid	30.00					
	Invalid	30.01					
	Invalid	Abcd					
Final	Invalid	-0.01					
	Valid	0.00					
	Valid	0.01	*				
	Valid	39.99		*			
	Valid	40.00			*		
	Invalid	40.01				*	
	Invalid	Jkl					*
Expected Result			P	P	P	F	F