Reason For Test Case	Input Values	Expected Output	OK

-Valid Students data.	Last1,First1 1234 M 100 100 100
	Last2,First2 2235 M 89 80 80
	Last3,First3 4236 M 70 79 74
	Last4,First4 5237 F 60 69 65
	Last5,First5 6238 F 9 59 50
	Last6,First6 7239 F 50 60 91
		~~< Stud Exam Report >~~
		
		<table><tr><td>Name</td><td>StudId</td><td>Sex</td><td>Exam 1</td><td>Exam 2</td><td>Exam 3</td><td>AVG of Exams</td><td>Grade</td></tr><tr><td>Last1,First1</td><td>1234</td><td>M</td><td>100.00</td><td>100.00</td><td>100.00</td><td>100</td><td>EXCELLENT</td></tr><tr><td>Last2,First2</td><td>2235</td><td>M</td><td>89.00</td><td>80.00</td><td>80.00</td><td>83</td><td>GOOD</td></tr><tr><td>Last3,First3</td><td>4236</td><td>M</td><td>70.00</td><td>79.00</td><td>74.00</td><td>75</td><td>OK</td></tr><tr><td>Last4,First4</td><td>5237</td><td>F</td><td>60.00</td><td>69.00</td><td>65.00</td><td>65</td><td>WEAK</td></tr><tr><td>Last5,First5</td><td>6238</td><td>F</td><td>9.00</td><td>59.00</td><td>50.00</td><td>40</td><td>FAILING</td></tr><tr><td>Last6,First6</td><td>7239</td><td>F</td><td>50.00</td><td>60.00</td><td>91.00</td><td>67</td><td>WEAK</td></tr></table>
		Bar chart for Performance
		  EXCELLENT |***
		  GOOD |***
		  OK |***
		  WEAK |******
		  FAILING |***
		
		>> Mean of all AVG: 71.67
		
		>>% of Valid: 100.00
		>>% of Invalid: 0.00
		
		< end >	

-one invalid	Last,First 1234 C 50 50 50	*~~< Stud Exam Report >~~* <table><tr><td>Name</td><td>Stud Id</td><td>Sex</td><td>Exam 1</td><td>Exam 2</td><td>Exam 3</td><td>AVG of Exams</td><td>Grade</td></tr><tr><td>Last,First</td><td>1234</td><td>C</td><td>50.00</td><td>50.00</td><td>50.00</td><td>~~ Invalid data ~~</td><td></td></tr></table> No Valid students data in file to evaluate performance bar chart and the mean of all AVG! >>% of Valid: 0.00 >>% of Invalid: 100.00 *< end >*	
-all invalid	Last1,First1 1234 C 0 0 0 Last2,First2 1235 M 500 5 15	*~~< Stud Exam Report >~~* <table><tr><td>Name</td><td>Stud Id</td><td>Sex</td><td>Exam 1</td><td>Exam 2</td><td>Exam 3</td><td>AVG of Exams</td><td>Grade</td></tr><tr><td>Last1,First1</td><td>1234</td><td>C</td><td>0.00</td><td>0.00</td><td>0.00</td><td>~~ Invalid data ~~</td><td></td></tr><tr><td>Last2,First2</td><td>1235</td><td>M</td><td>500.00</td><td>5.00</td><td>15.00</td><td>~~ Invalid data ~~</td><td></td></tr></table> No Valid students data in file to evaluate performance bar chart and the mean of all AVG! >>% of Valid: 0.00 >>% of Invalid: 100.00 *< end >*	

-one valid record	Last,First 1234 M 50 60 70	*~~< Stud Exam Report >~~*
		<table><tr><td>Name</td><td>Stud Id</td><td>Sex</td><td>Exam 1</td><td>Exam 2</td><td>Exam 3</td><td>AVG of Exams</td><td>Grade</td></tr><tr><td>Last,First</td><td>1234</td><td>M</td><td>50.00</td><td>60.00</td><td>70.00</td><td>60</td><td>WEAK</td></tr></table>
		Bar chart for Performance
		  EXCELLENT |
		  GOOD |
		  OK |
		  WEAK |***
		  FAILING |
		
		>> Mean of all AVG: 60.00
		
		>>% of Valid: 100.00
		>>% of Invalid: 0.00
		
		< end >	

-valid with invalid data -all valid data situations: exams that are on the low and high edge of the grade (this includes zeros, Excellent grade edges, Good grade edges, Ok grade edges, Weak grade edges, Failing grade edges, and 100) - all invalid data situations: - invalid low id, high id. - invalid low exam (negative), high exam. -invalid gender - invalid exam1,exam2,exam3 - invalid all - no gender in input	Last1,First1 1234 M 65 66 67 Last2,First2 5678 M 0 0 0 Last3,First3 9012 M 75 77 79 Last4,First4 3456 M 99 95 92 Last5,First5 7890 F 77 0 100 Last6,First6 4321 M 50 60 70 Last7,First7 123 M 16 100 15 Last8,First8 1212 N 12 90 89 Last10,First10 1313 M -1 59 48 Last11,First11 1414 F 97 101 66 Last12,First12 -1 T 234 567 890 Last13,First13 9876 70 70 71	(see report below)

~~< Stud Exam Report >~~

Name	Stud Id	Sex	Exam 1	Exam 2	Exam 3	AVG of Exams	Grade
Last1,First1	1234	M	65.00	66.00	67.00	66	WEAK
Last2,First2	5678	M	0.00	0.00	0.00	0	FAILING
Last3,First3	9012	M	75.00	77.00	79.00	77	OK
Last4,First4	3456	M	99.00	95.00	92.00	96	EXCELLENT
Last5,First5	7890	F	77.00	0.00	100.00	59	FAILING
Last6,First6	4321	M	50.00	60.00	70.00	60	WEAK
Last7,First7	123	M	16.00	100.00	15.00	~~ Invalid data ~~	
Last8,First8	1212	N	12.00	90.00	89.00	~~ Invalid data ~~	
Last10,First10	1313	M	-1.00	59.00	48.00	~~ Invalid data ~~	
Last11,First11	1414	F	97.00	101.00	66.00	~~ Invalid data ~~	
Last12,First12	-1	T	234.00	567.00	890.00	~~ Invalid data ~~	
Last13,First13	9876	7	0.00	70.00	71.00	~~ Invalid data ~~	

Bar chart for Performance
```
EXCELLENT      |***
GOOD           |
OK             |***
WEAK           |******
FAILING        |******
```

>> Mean of all AVG: 59.67

>>% of Valid: 50.00
>>% of Invalid: 50.00

< end >