

```
class InvalidGradeException(Exception):
```

```
    pass
```

```
class StudentGradingSystem:
```

```
    def __init__(self):
```

```
        self.students = []
```

```
    def input_student_data(self):
```

```
        while True:
```

```
            try:
```

```
                student_name = input("Enter student name (or 'exit' to finish): ")
```

```
                if student_name.lower() == 'exit':
```

```
                    break
```

```
                grades = []
```

```
                while True:
```

```
                    grade_input = input("Enter a grade (or 'done' to finish): ")
```

```
                    if grade_input.lower() == 'done':
```

```
                        break
```

```
                    grade = self.validate_grade(grade_input)
```

```
                    grades.append(grade)
```

```
                average_grade = self.calculate_average(grades)
```

```
                grade_letter = self.determine_grade_letter(average_grade)
```

```
                self.students.append((student_name, average_grade, grade_letter))
```

```
            except InvalidGradeException as e:
```

```
                print(e)
```

```
            except ValueError as e:
```

```
                print("Invalid input. Please enter a numeric grade.")
```

```
def validate_grade(self, grade_input):
```

```
    grade = float(grade_input)
```

```
    if grade < 0 or grade > 100:
```

```
        raise InvalidGradeException("Grade must be between 0 and 100.")
```

```
    return grade
```

```
def calculate_average(self, grades):
```

```
    return sum(grades) / len(grades)
```

```
def determine_grade_letter(self, average_grade):
```

```
    if average_grade >= 90:
```

```
        return 'A'
```

```
    elif average_grade >= 80:
```

```
        return 'B'
```

```
    elif average_grade >= 70:
```

```
        return 'C'
```

```
    elif average_grade >= 60:
```

```
        return 'D'
```

```
    else:
```

```
        return 'F'
```

```
def generate_report(self):
```

```
    if not self.students:
```

```
        print("No student data available.")
```

```
    else:
```

```
        print("Student Grades Report:")
```

```
        for student_name, average_grade, grade_letter in self.students:
```

```
            print(f"Student: {student_name}, Average Grade: {average_grade:.2f}, Grade Letter: {grade_letter}")
```

```
# Main function to run the student grading system
```

```
def main():
```

```
    system = StudentGradingSystem()
```

```
    system.input_student_data()
```

```
    system.generate_report()
```

```
main()
```