

Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details

Black Box

Equivalence Class Partitioning

1-Subject name:

- Valid classes:

class 1: Alphabetic characters and Spaces start with alphabets.

Input Screenshot:

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

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File Edit View

Social Studies,SOC123,100
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sarah,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
jana,1234567s,9,8,19,58
Dani,12345671,7,6,15,51

Output Screenshot:

Subject Name: SocialStudies		Max Mark:100	
Student name	Student number	GPA	Grade
Ahmed	1234567r	3.0	B
Abas	1274567r	2.7	B-
John	1284567r	2.7	B-
Emily	1334567r	3.0	B
Sarah	3234567r	3.0	B
David	1234867r	2.0	C
maria	1234667r	2.7	B-
Alex	1234567z	2.7	B-
jana	1234567s	4.0	A
Dani	12345671	2.7	B-

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

- Invalid Classes

class 1: Special characters not Alphabetic nor spaces.

Input Screenshot:

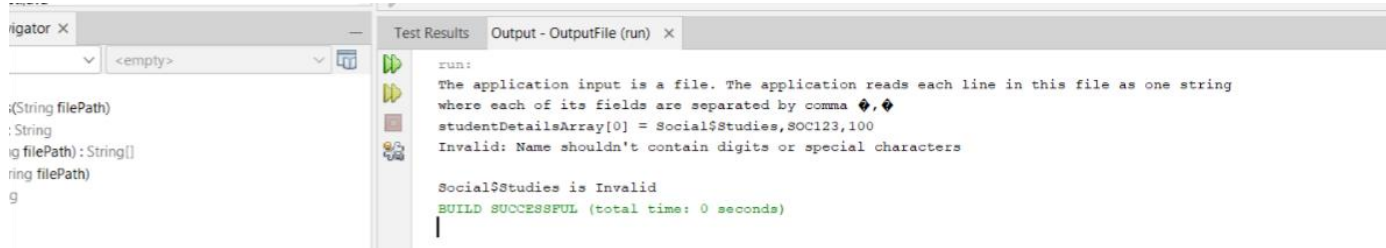
```
Social&studies,SOC123,100
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sarah,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
jana,1234567s,9,8,19,58
Dani,12345671,7,6,15,51
```

Output Screenshot:

Testing Type Details: Equivalence class testing

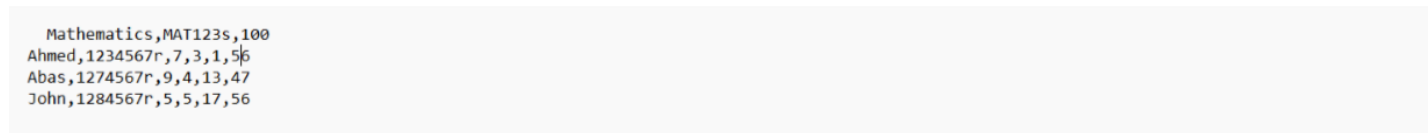
Tester Name: Sara Ashraf

Test Environment Details



class 2: Alphabetic characters and Spaces start with space.

Input Screenshot:



Output Screenshot: The Spaces at the start are truncated and inputs are processed and here's the output file

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

Subject Name: Mathematics Max Mark:100

Student name	Student number	GPA	Grade
Ahmed	1234567r	1.7	C-
Abas	1274567r	2.3	C+
John	1284567r	3.0	B

2-Subject code

- Valid classes:

class 1: 6 Alphanumeric characters. The first 3 are Alphabetic followed by 3 numeric characters:.

Input Screenshot:

Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details

Social Studies,SOC123,100
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sarah,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
jana,1234567s,9,8,19,58
Dani,12345671,7,6,15,51

Output Screenshot:

Subject Name: SocialStudies Max Mark:100

Student name	Student number	GPA	Grade
Ahmed	1234567r	3.0	B
Abas	1274567r	2.7	B-
John	1284567r	2.7	B-
Emily	1334567r	3.0	B
Sarah	3234567r	3.0	B
David	1234867r	2.0	C
maria	1234667r	2.7	B-
Alex	1234567z	2.7	B-
jana	1234567s	4.0	A
Dani	12345671	2.7	B-

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

Class 2: 7 Alphanumeric characters. The first 3 are Alphabetic followed by 3 numeric characters. The seventh is s :

Input Screenshot:

Subject Name: Social Studies		Max Mark:100	
Student name	Student number	GPA	Grade
Ahmed	1234567r	3.0	B
Abas	1274567r	2.7	B-
John	1284567r	2.7	B-
Emily	1334567r	3.0	B
Sarah	3234567r	3.0	B
David	1234867r	2.0	C
maria	1234667r	2.7	B-
Alex	1234567z	2.7	B-
jana	1234567s	4.0	A
Dani	12345671	2.7	B-

Output Screenshot:

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

Subject Name: Mathematics Max Mark:100

Student name	Student number	GPA	Grade
Ahmed	1234567r	3.0	B
Abas	1274567r	2.7	B-
John	1284567r	2.7	B-
Emily	1334567r	3.0	B
Sarah	3234567r	3.0	B
David	1234867r	2.0	C
maria	1234667r	2.7	B-
Alex	1234567z	2.7	B-
<u>jana</u>	1234567s	4.0	A
Dani	12345671	2.7	B-

- Invalid Classes

class 1: 5 or less Alphanumeric characters

Input Screenshot:

Testing Type Details: Equivalence class testing

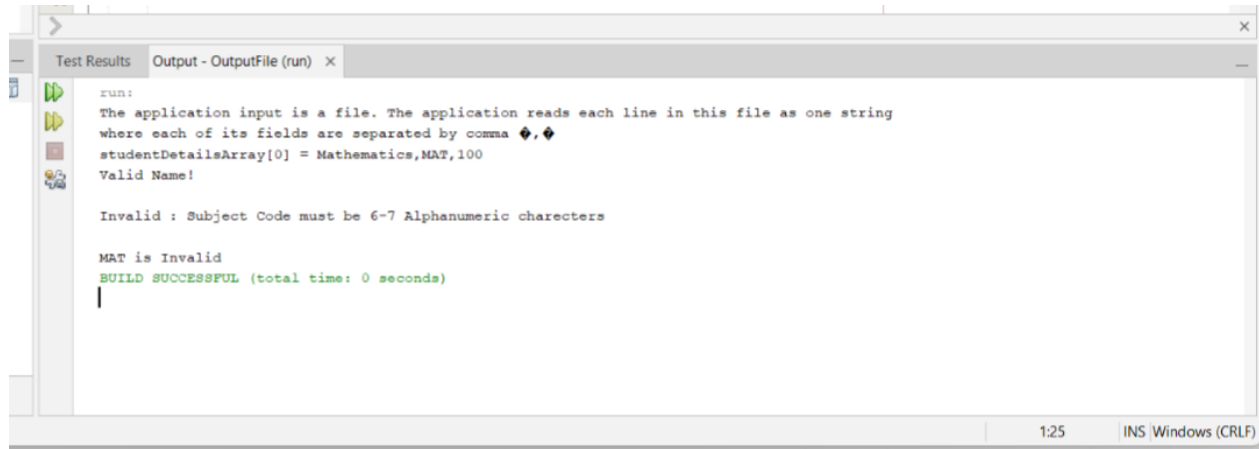
Tester Name: Sara Ashraf

Test Environment Details

```
File Edit View

Mathematics,MAT,100
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sarah,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
jana,1234567s,9,8,19,58
Dani,1234567i,7,6,15,51
```

Output Screenshot:



The screenshot shows an IDE output window with the following content:

```
run:
The application input is a file. The application reads each line in this file as one string
where each of its fields are separated by comma ,
studentDetailsArray[0] = Mathematics,MAT,100
Valid Name!

Invalid : Subject Code must be 6-7 Alphanumeric charecters

MAT is Invalid
BUILD SUCCESSFUL (total time: 0 seconds)
```

The status bar at the bottom indicates the cursor is at line 1, column 25 (1:25) and the file encoding is UTF-8 with Windows line endings (INS \Windows (CRLF)).

Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details

class 2: 8 or more Alphanumeric characters

Input Screenshot:

Testing Type Details: Equivalence class testing

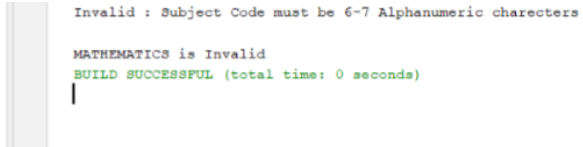
Tester Name: Sara Ashraf

Test Environment Details

```
Mathematics,MATHEMATICS,100
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sarah,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
jana,1234567s,9,8,19,58
Dani,12345671,7,6,15,51
```

Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details

Output Screenshot:



```
Invalid : Subject Code must be 6-7 Alphanumeric charecters  
  
MATHEMATICS is Invalid  
BUILD SUCCESSFUL (total time: 0 seconds)  
|
```

class 3:6-7 Alphanumeric characters. The first characters are numeric

Input Screenshot:

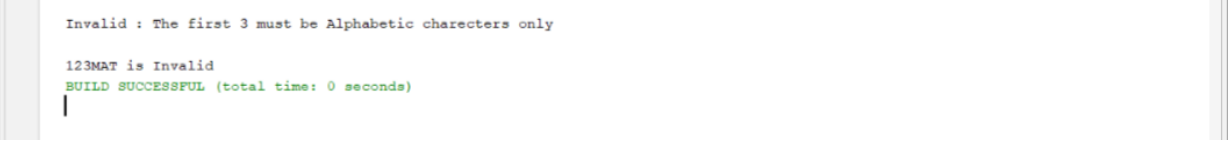
Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

```
Mathematics,123MAT,100
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sarah,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
jana,1234567s,9,8,19,58
Dani,12345671,7,6,15,51
```

Output Screenshot:



class 4: 6-7 Alphanumeric characters. The first 2 or less are Alphabetic followed by numeric characters

Input Screenshot:

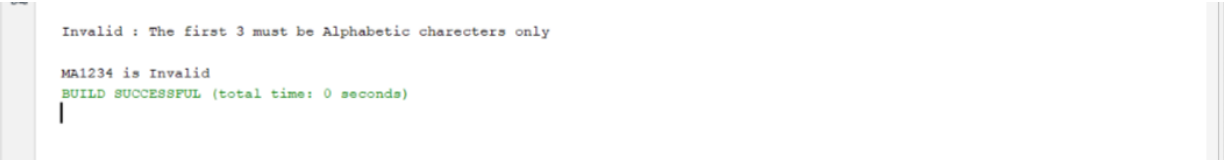
Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

Mathematics,MA1234	100
Ahmed,1234567r	7,8,15,50
Abas,1274567r	9,6,18,45
John,1284567r	5,7,12,55
Emily,1334567r	8,9,17,48
Sarah,3234567r	6,8,14,52
David,1234867r	7,5,16,42
maria,1234667r	8,7,13,49
Alex,1234567z	4,6,11,57
jana,1234567s	9,8,19,58
Dani,12345671	7,6,15,51

Output Screenshot:



class 5: 6-7 Alphanumeric characters. The first 4 or more are Alphabetic followed by numeric characters

Input Screenshot:

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

```
Mathematics,MATH34,100
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sarah,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
jana,1234567s,9,8,19,58
Dani,12345671,7,6,15,51
```

Output Screenshot:

```
Invalid : The second 3 must be numeric charecters only

MATH34 is Invalid
BUILD SUCCESSFUL (total time: 0 seconds)
|
```

class 6: 7 Alphanumeric characters. The first 3 are Alphabetic followed by 3 numeric characters. The sevens is any character other than 's'

Input Screenshot:

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

```
Mathematics,MAT123r,100
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sarah,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
jane,1234567s,9,8,19,58
Dani,1234567i,7,6,15,51
```

Output Screenshot:



3-Full mark

- Valid classes:

class 1: a numeric value of 100::.

Input Screenshot:

Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details

Social Studies,SOC123,100
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sarah,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
Jana,1234567s,9,8,19,58
Dani,12345671,7,6,15,51

Output Screenshot:

Subject Name: SocialStudies Max Mark:100

Student name	Student number	GPA	Grade
Ahmed	1234567r	3.0	B
Abas	1274567r	2.7	B-
John	1284567r	2.7	B-
Emily	1334567r	3.0	B
Sarah	3234567r	3.0	B
David	1234867r	2.0	C
maria	1234667r	2.7	B-
Alex	1234567z	2.7	B-
Jana	1234567s	4.0	A
Dani	12345671	2.7	B-

- Invalid Classes

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

class 1: a numeric value of less than 100

Input Screenshot:

```
Mathematics,MAT123s,90|
Ahmed,1234567r,7,3,1,66
Abas,1274567r,9,4,13,67
John,1284567r,5,5,17,70
```

Output Screenshot:

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details



class 2: a numeric value of morethan 100

Input Screenshot:

```
Mathematics,MAT123s,110
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sarah,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
jane,1234567s,9,8,19,58
Dani,12345671,7,6,15,51
```

Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details

Output Screenshot:

```
Invalid: Full Mark must be 100 only  
110 is Invalid  
BUILD SUCCESSFUL (total time: 0 seconds)  
|
```

4-Student name:

- Valid classes:

class 1: Alphabetic characters and Spaces start with alphabets.

Input Screenshot:

Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details

Mathematics,MAT123s,100
Ann ann,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sara ahmed,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
jana,1234567s,9,8,19,58
Dani,12345671,7,6,15,51

Output Screenshot:

Subject Name: Mathematics Max Mark:100

Student name	Student number	GPA	Grade	
Annann	1234567r	3.0	B-	B
Abas	1274567r	2.7		
John	1284567r	2.7	B	B
Emily	1334567r	3.0		
Saraahmed	3234567r	3.0	C	B
David	1234867r	2.0		
maria	1234667r	2.7	B-	B-
Alex	1234567z	2.7		
jana	1234567s	4.0	A	A
Dani	12345671	2.7		

- Invalid Classes

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

class 1: Special characters not Alphabetic nor spaces.

Input Screenshot:

```
Mathematics,MAT123s,100
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily&,1334567r,8,9,17,48
&Sara,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
1Alex,1234567z,4,6,11,57
jana2,1234567s,9,8,19,58
Dani,12345671,7,6,15,51
```

Output Screenshot:

```
Invalid: Name shouldn't contain digits or special characters

Emily& is Invalid
BUILD SUCCESSFUL (total time: 0 seconds)
```

class 2: Alphabetic characters and Spaces start with space.

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

Input Screenshot:

```
Mathematics,MAT123s,100
Ahmed,1234567r,7,3,1,56
Abas,1274567r,9,4,13,47
John,1284567r,5,5,17,56
```

Output Screenshot: The Spaces at the start are truncated and inputs are processed and here's the output file

```
Subject Name: Mathematics      Max Mark:100

Student name      Student number      GPA      Grade
Ahmed            1234567r            1.7      C-
Abas             1274567r            2.3      C+
John            1284567r            3.0      B
```

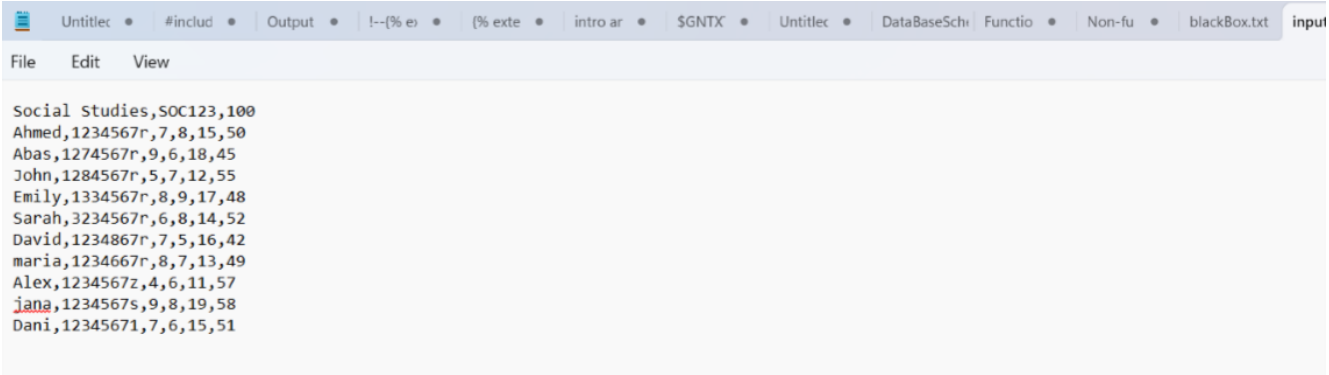
5-Student Number

- Valid classes:

class 1: Alphanumeric characters of exact length of 8 characters. It start with 7 numbers and End with one Alphabetic character.

Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details

Input Screenshot:



Output Screenshot:

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

Subject Name: Social Studies Max Mark:100

Student name	Student number	GPA	Grade
Ahmed	1234567r	3.0	B
Abas	1274567r	2.7	B-
John	1284567r	2.7	B-
Emily	1334567r	3.0	B
Sarah	3234567r	3.0	B
David	1234867r	2.0	C
maria	1234667r	2.7	B-
Alex	1234567z	2.7	B-
<u>jana</u>	1234567s	4.0	A
Dani	12345671	2.7	B-

Class 2: numeric characters of length of 8 characters :

Input Screenshot:

```
Mathematics,MAT123s,100
Ahmed,12345678,7,8,15,50
Abas,12345678,9,6,18,45
John,12345678,5,7,12,55
Emily,12345678,8,9,17,48
Sara,12345678,6,8,14,52
David,12345678,7,5,16,42
maria,12345678,8,7,13,49
Alex,12345678,4,6,11,57
jana,12345678,9,8,19,58
Dani,12345678,7,6,15,51
```

Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details

Output Screenshot:

Subject Name: Mathematics		Max Mark:100	
Student name	Student number	GPA	Grade
Ahmed	12345678	3.0	B
Abas	12345678	2.7	B-
John	12345678	2.7	B-
Emily	12345678	3.0	B
Sara	12345678	3.0	B
David	12345678	2.0	C
maria	12345678	2.7	B-
Alex	12345678	2.7	B-
jana	12345678	4.0	A
Dani	12345678	2.7	B-

- Invalid Classes

class 1: Alphanumeric characters of length more than 8 characters

Input Screenshot:

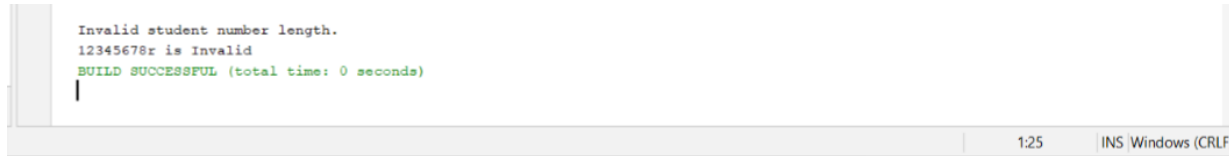
Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

```
Mathematics,MAT123s,100
Ahmed,12345678r,7,8,15,50
Abas,127456789m,9,6,18,45
John,12845678n,5,7,12,55
Emily,13345678k,8,9,17,48
Sara,32345678r,6,8,14,52
David,12348678r,7,5,16,42
maria,123466789r,8,7,13,49
Alex,12345678z,4,6,11,57
jana,12345678s,9,8,19,58
Dani,12345678j,7,6,15,51
```

Output Screenshot:



```
Invalid student number length.
12345678r is Invalid
BUILD SUCCESSFUL (total time: 0 seconds)
```

The screenshot shows a terminal window with a light gray background. The text is displayed in a monospaced font. The first line is "Invalid student number length." in black. The second line is "12345678r is Invalid" in black. The third line is "BUILD SUCCESSFUL (total time: 0 seconds)" in green. The terminal window has a title bar at the bottom that says "1:25 INS Windows (CRLF)".

class 2: Alphanumeric characters of length less than 8

Input Screenshot:

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

```
Mathematics,MAT123s,100
Ahmed,123456r,7,8,15,50
Abas,127456m,9,6,18,45
John,128456n,5,7,12,55
Emily,133456k,8,9,17,48
Sara,323456r,6,8,14,52
David,123486r,7,5,16,42
maria,123466r,8,7,13,49
Alex,123456z,4,6,11,57
jana,123456s,9,8,19,58
Dani,123456j,7,6,15,51
```

Output Screenshot:



```
Invalid student number length.
123456r is Invalid
BUILD SUCCESSFUL (total time: 0 seconds)
|
```

The screenshot shows a terminal window with a light gray background. The text is displayed in a monospaced font. The first line is "Invalid student number length." in black. The second line is "123456r is Invalid" in black. The third line is "BUILD SUCCESSFUL (total time: 0 seconds)" in green. There is a vertical cursor bar on the right side of the text. At the bottom of the terminal, there is a status bar with "1:25" and "INS Windows (CRLF)".

class 3: Alphanumeric characters of exact length of 8 characters.having Alphabetic character in any of the first 7 characters

Input Screenshot:

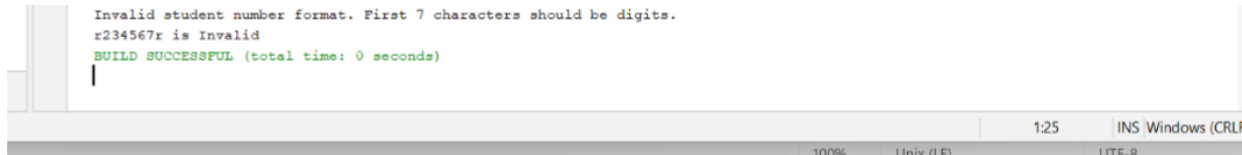
Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

```
Mathematics,MAT123s,100
Ahmed,r234567r,7,8,15,50
Abas,m274567m,9,6,18,45
John,n284567n,5,7,12,55
Emily,k334567k,8,9,17,48
Sara,r234567r,6,8,14,52
David,r234867r,7,5,16,42
maria,r234667r,8,7,13,49
Alex,z234567z,4,6,11,57
Jana,1s234567s,9,8,19,58
Dani,12j34567j,7,6,15,51
```

Output Screenshot:



```
Invalid student number format. First 7 characters should be digits.
r234567r is Invalid
BUILD SUCCESSFUL (total time: 0 seconds)
|
```

The screenshot shows a terminal window with a light gray background. The text is displayed in a monospaced font. The first line is an error message in black. The second line shows a specific student ID being tested. The third line is a green status message indicating a successful build. A cursor is visible on the line following the status message. The terminal window has a title bar at the bottom with '1:25' and 'INS Windows (CRLF)'.

6- Student Activities marks::

- Valid classes:

class 1: integer between 0 and 10.

Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details

Input Screenshot:

```
Social Studies,SOC123,100
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sarah,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
jana,1234567s,9,8,19,58
Dani,12345671,7,6,15,51
```

Output Screenshot:

Subject Name: SocialStudies		Max Mark:100	
Student name	Student number	GPA	Grade
Ahmed	1234567r	3.0	B
Abas	1274567r	2.7	B-
John	1284567r	2.7	B-
Emily	1334567r	3.0	B
Sarah	3234567r	3.0	B
David	1234867r	2.0	C
maria	1234667r	2.7	B-
Alex	1234567z	2.7	B-
jana	1234567s	4.0	A
Dani	12345671	2.7	B-

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

- Invalid Classes

class 1: integer less than 0.

Input Screenshot:

```
Mathematics,MAT123s,100
Ahmed,12345678,-1,8,15,50
Abas,12345678,-2,6,18,45
John,12345678,-2,7,12,55
```

Output Screenshot:

```
Invalid activities mark. Mark should be between 0 and 10% of the full mark.
-1 is Invalid
BUILD SUCCESSFUL (total time: 0 seconds)
```

class 2: integer more than 10.

Input Screenshot:

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

```
Mathematics,MAT123s,100  
Ahmed,12345678,11,8,15,50  
Abas,12345678,12,6,18,45  
John,12345678,12,7,12,55
```

Output Screenshot:

```
Invalid activities mark. Mark should be between 0 and 10% of the full mark.  
11 is Invalid  
BUILD SUCCESSFUL (total time: 0 seconds)
```

7- Oral/Practical mark:

- Valid classes:

class 1: integer between 0 and 10.

Input Screenshot:

Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details

Social Studies,SOC123,100
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sarah,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
jana,1234567s,9,8,19,58
Dani,12345671,7,6,15,51

Output Screenshot:

Subject Name: SocialStudies Max Mark:100

Student name	Student number	GPA	Grade
Ahmed	1234567r	3.0	B
Abas	1274567r	2.7	B-
John	1284567r	2.7	B-
Emily	1334567r	3.0	B
Sarah	3234567r	3.0	B
David	1234867r	2.0	C
maria	1234667r	2.7	B-
Alex	1234567z	2.7	B-
<u>jana</u>	1234567s	4.0	A
Dani	12345671	2.7	B-

- Invalid Classes
- class 1: integer less than 0.

Testing Type Details: Equivalence class testing

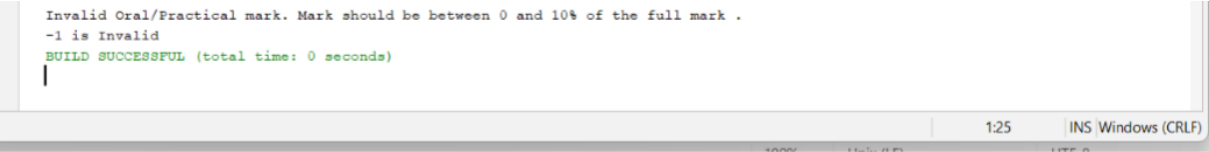
Tester Name: Sara Ashraf

Test Environment Details

Input Screenshot:

```
Mathematics,MAT123s,100
Ahmed,1234567r,7,-1,15,50
Abas,1274567r,9,-1,18,45
John,1284567r,5,-2,12,55
```

Output Screenshot:



class 2: Alphabetic characters and Spaces start with space.

Input Screenshot:

```
Mathematics,MAT123s,100
Ahmed,1234567r,7,12,15,50
Abas,1274567r,9,13,18,45
John,1284567r,5,14,12,55
```

Output Screenshot:

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

```
Invalid Oral/Practical mark. Mark should be between 0 and 10% of the full mark .  
12 is Invalid  
BUILD SUCCESSFUL (total time: 0 seconds)  
|
```

8-Midterm exam mark:

- Valid classes:

class 1: integer between 0 and 20.

Input Screenshot:

```
Social Studies,SOC123,100  
Ahmed,1234567r,7,8,15,50  
Abas,1274567r,9,6,18,45  
John,1284567r,5,7,12,55  
Emily,1334567r,8,9,17,48  
Sarah,3234567r,6,8,14,52  
David,1234867r,7,5,16,42  
maria,1234667r,8,7,13,49  
Alex,1234567z,4,6,11,57  
Jana,1234567s,9,8,19,58  
Dani,12345671,7,6,15,51
```

Output Screenshot:

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

Subject Name: Social Studies Max Mark: 100

Student name	Student number	GPA	Grade
Ahmed	1234567r	3.0	B
Abas	1274567r	2.7	B-
John	1284567r	2.7	B-
Emily	1334567r	3.0	B
Sarah	3234567r	3.0	B
David	1234867r	2.0	C
maria	1234667r	2.7	B-
Alex	1234567z	2.7	B-
<u>jana</u>	1234567s	4.0	A
Dani	12345671	2.7	B-

- Invalid Classes

class 1: integer less than 0.

Input Screenshot:

```
Mathematics,MAT123s,100
Ahmed,1234567r,7,3,-1,50
Abas,1274567r,9,4,-2,45
John,1284567r,5,5,-3,55
```

Output Screenshot:

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

```
Invalid Midterm exam mark. Mark should be between 0 and 20% of the full mark .  
-1 is Invalid  
BUILD SUCCESSFUL (total time: 0 seconds)
```

class 2: Alphabetic characters and Spaces start with space.

Input Screenshot:

```
Mathematics,MAT123s,100  
Ahmed,1234567r,7,3,21,50  
Abas,1274567r,9,4,21,45  
John,1284567r,5,5,23,55
```

Output Screenshot:

```
Invalid Midterm exam mark. Mark should be between 0 and 20% of the full mark .  
21 is Invalid  
BUILD SUCCESSFUL (total time: 0 seconds)
```

9-Final exam mark:

- Valid classes:

Testing Type Details: Equivalence class testing

Tester Name: Sara Ashraf

Test Environment Details

class 1: integer between 0 and 60:.

Input Screenshot:

```
Social Studies,SOC123,100
Ahmed,1234567r,7,8,15,50
Abas,1274567r,9,6,18,45
John,1284567r,5,7,12,55
Emily,1334567r,8,9,17,48
Sarah,3234567r,6,8,14,52
David,1234867r,7,5,16,42
maria,1234667r,8,7,13,49
Alex,1234567z,4,6,11,57
jana,1234567s,9,8,19,58
Dani,12345671,7,6,15,51
```

Output Screenshot:

Subject Name: SocialStudies		Max Mark:100	
Student name	Student number	GPA	Grade
Ahmed	1234567r	3.0	B
Abas	1274567r	2.7	B-
John	1284567r	2.7	B-
Emily	1334567r	3.0	B
Sarah	3234567r	3.0	B
David	1234867r	2.0	C
maria	1234667r	2.7	B-
Alex	1234567z	2.7	B-
jana	1234567s	4.0	A
Dani	12345671	2.7	B-

Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details

- **Invalid Classes**

class 1: integer less than 0.

Input Screenshot:

```
Mathematics,MAT123s,100
Ahmed,1234567r,7,3,1,-1
Abas,1274567r,9,4,13,-2
John,1284567r,5,5,17,-2
```

Output Screenshot:

```
Invalid Final exam mark. Mark should be between 0 and 60% of the full mark .
-1 is Invalid
BUILD SUCCESSFUL (total time: 0 seconds)
```

class 2: Alphabetic characters and Spaces start with space.

Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details

Input Screenshot:

```
Mathematics,MAT123s,100
Ahmed,1234567r,7,3,1,66
Abas,1274567r,9,4,13,67
John,1284567r,5,5,17,70
```

Output Screenshot:

```
Invalid final exam mark. Mark should be between 0 and 60% of the full mark .
do is invalid
BUILD SUCCESSFUL (total time: 0 seconds)
|
```


Testing Type Details: Equivalence class testing
Tester Name: Sara Ashraf
Test Environment Details