H – Case Structures

Code Samples - Documentation

# Examples

1. **LetterGrade** - Represents a letter grade as assigned in Quebec universities. Source: <http://en.wikipedia.org/wiki/Letter_grade>
2. **Rating** – Represents a rating on a scale of 1 to 5, where 1 is “very bad”, 2 is “bad”, 3 is “average”, 4 is “good”, and 5 is “very good”.

# LetterGrade

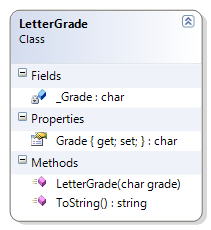
## Problem Statement

Write the code for the LetterGrade class that represents a letter grade as assigned in Quebec universities (Source: <http://en.wikipedia.org/wiki/Letter_grade>). The solution must meet the following requirements (*note – you do not need to perform validation for this sample)*:

* Should get and set the grade (as a single letter)
* Should ensure the grade is in upper-case
* Should get the appropriate descriptions for the grade, based on the following table:

|  |  |
| --- | --- |
| Grade | Description |
| A | A - 80-100% - Greatly Above Standards |
| B | B - 70-79% - Above Standards |
| C | C - 60-69% - At Government Standards |
| D | D - 50-60% - Lower Standards |
| F | F - 0-49% - Failure |

Use the following class diagram when creating your solution.



## Code Solution

public class LetterGrade

{

private char \_Grade;

public char Grade

{

get { return \_Grade; }

set { this.\_Grade = char.ToUpper(value); }

}

public LetterGrade(char grade)

{

Grade = grade;

}

public override string ToString()

{

string description;

switch (\_Grade)

{

case 'A':

description = "A - 80-100% - Greatly Above Standards";

break;

case 'B':

description = "B - 70-79% - Above Standards";

break;

case 'C':

description = "C - 60-69% - At Government Standards";

break;

case 'D':

description = "D - 50-60% - Lower Standards";

break;

case 'F':

description = "F - 0-49% - Failure";

break;

default:

description = "Invalid Letter Grade";

break;

}

return description;

}

}

# Rating

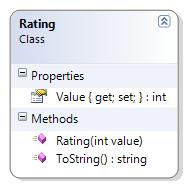
## Problem Statement

Write the code for the Rating class that represents a rating on a survey where the rating is done using the values 1 through 5, inclusive. The solution must meet the following requirements (*note – you do not need to perform validation for this sample)*:

* Should get and set the rating value
* Should get the appropriate string result when using the ToString() method, based on the following table:

|  |  |
| --- | --- |
| Value | Description |
| 1 | very bad |
| 2 | bad |
| 3 | average |
| 4 | good |
| 5 | very good |

Use the following class diagram when creating your solution.



## Code Solution

public class Rating

{

public int Value { get; set; }

public Rating(int value)

{

Value = value;

}

public override string ToString()

{

string rating;

switch (Value)

{

case 5:

rating = "very good";

break;

case 4:

rating = "good";

break;

case 3:

rating = "average";

break;

case 2:

rating = "bad";

break;

case 1:

rating = "very bad";

break;

default:

rating = "Invalid Rating";

break;

}

return rating;

}

}