# Assignment 1 - Calculating Course Grade

CSE 206 – Week 1

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It’s time to implement some real-life problems with what we’ve learnt on the first week!

Let’s design a cpp code that does the job of calculating your grade on a theory course at MIST.

# Needed Attributes

You Need to Store the following (taken as **input** from user):

1. Student's ID (for example: 202214001)
2. Course Code (for example: 203) - numeral part only is sufficient
3. Number of classes the student was present in (out of 42)
4. Marks of 3 CTs (out of 20, need to be converted to 30 later)
5. Marks of Midterm (out of 30)
6. Marks in Term Final - Section A & B (out of 30 - each)

You'll need to **calculate** & store the following as well:

1. Marks of Attendance (out of 15)
2. Marks of Performance (out of 15)
3. Best 2 CT (out of 60 - 30+30)
4. TOTAL marks (out of 300)

# Needed “Features” (functions)

to calculate the necessary marks, implement the following functions:

```
void calc_att()
{
        //Calculate and set att = Present Classes/42*15
}
void calc_perf()
{
        //Calculate and set Performance = (mid/30*15 - (42-Present Classes))
        //IF Performance marks becomes <0, replace it with 0
}
```

# Needed “Features” (functions)

to calculate the necessary marks, implement the following functions:

```
    void calc_best2CT()
    {
            //Convert the CT marks out of 20 (taken as input) to 30 and add them all.
            //Then find out the minimum mark obtained in CT.
            //Subtract the min with the sum of 3 CTs to find the sum of Best 2 CTs
}
    void calc_grade()
    {
        //calculate total mark (300) = att (15) + perf (15) + best2CT (60) + mid (30) + final_A (90) + final_A (90)
        //then calculate the grade as per the table on the next slide
    }
```

# Grade Calculation

| Mark Range | Grade |
|---|---|
| >=240 | A |
| >=200 | B |
| >=160 | C |
| >=120 | D |
| <120 | F |
| Any other Mark | E |

# Class Design

Now write the class with necessary attributes and functions as described in previous slides.

# Input-Output & Submission

1. Check out **ASN1_CourseGradeCalc.exe** (click to download) to see the input and output formatting. Follow it closely.

2. Write the main() function of your code accordingly.

3. Be aware to call the functions with in a appropriate sequence (for example, total should not be called before calculating the att, perf and best 2 CTs).

4. Submit the .cpp file by **11.30 PM, Tuesday, 28 March 2023**. Name it **asn1_yourID.cpp** (for instance, asn1_202214001.cpp).

# Evaluation

1. An evaluation will be held next week where you will be asked to implement additional features on top your assignment code.

2. A brief viva will also be taken.

3. Understanding and practising the concepts covered in class will be sufficient.

# All the best!