**<Prelab session>**

* **Prelab Code (20)**
  + Filling the blanks in Prelab code (Q1 ~ Q6) : If there’s no error and the code is logically valid (2pt for each)
  + Q7(writing code for Cutoffvalue) (8 pts)
    - If you only use the basic method which is explained in Prelab Guideline (5 pts)
    - If you use the basic method which is explained in Prelab Guideline but you explained well why this method is the proper method to find Cutoffvalue OR If you only write the basic method in the code but explain another method in Prelab Report (bonus 1pt)
    - If you add some creative conditions to the basic method OR use your own creative methods OR suggest more than one idea to decide Cutoffvalue (3 pts)
* **Prelab Report (20)**
  + If you explained well about the method how you decided Cutoffvalue (15 pts)
  + If you well explained about InfoGain (5 pts)

**<Mainlab session>**

* **Introduction (7)**
  + Appropriate description about the purpose of experiment? (3 pts)
  + Background knowledges about decision tree, ID3, and N-fold validation (3 pts)
* **Methods (21)**
  + Accurate description of whole experimental procedure and functions
    - Accurate and sufficient explanation about the key functions - makeDecisionTree(), findCutoffValue(), testSample(), getAccuracy() and nFoldCV() (15 pts)
    - Functions implementation using C++ (6 pts)
* **Results (22)**
  + Accurate answers to the four questions in the manual (18 pts)
    - What is Definition of ‘information gain’ with fully explained equations? How is it applied in your ID3 algorithm? (6 pts)
    - Which gene having maximum information gain? (3 pts)
    - Describe how you implement the *testSample* with recursive call of the function. (3 pts)
    - Vary your ID3 heuristic algorithm choosing best gene from DEGs or function *`findCutoffValue`*. When is the validated performance is best? (6 pts)
  + Accuracy for the test data set (4 pts)
    - If the accuracy for the test data set is more than 70 %, you will get 4 points.
* **Summary (5)**
  + Description of the problems or limitations during the experiments and how to solve them. (5 pts)
* **Reference (5)**
  + If the report does not contain information about reference materials, 5 points were deducted.

**<Late penalty>**

* 15% of the total score is reduced per day.
* Total score is reduced up to 50%.

**<Wrong filename>**

-0.5 pts.