

[read the instruction carefully]

- You are to use Python as the programming language.
- You are not allowed to share code with your classmates nor allowed to use code from the internet.
- You are encouraged to engage in high level discussions with your classmates; however ensure to include their names in the report/code documentation. If you refer to any source on the Internet, include the corresponding citation in the report/code documentation. If we find that you have copied code from your classmate or from the Internet, you will get a straight fail grade in the course.
- The submission must be a zip file with the following naming convention - rollnumber.zip. The Python files should be contained in a folder named after the question number.
- Include appropriate comments to document the code. Include a README file containing the instructions on for executing the code. The code should run on institute linux machines.
- Upload your submission to moodle by the due date and time. Do not email the submission to the instructor or the TA.

Problem Description (10 marks)

Using the binary search trees, implement an Employee Database (DB). The table that stores the records in your DB will be a binary search tree. The nodes will consist of Employee objects. The tree will be sorted on the primary key value of the nodes, which in our case will be Employee Ids. Your first job will be to build a BST implementation supporting the usual operations (including *delete*).

Employee Records:

Employee records will be stored in an *Employee* class. Employee records contain a unique Employee ID (an integer), a String name field.

Once the program runs, a menu should be presented to the user to allow them to manipulate the databases. The choices must include:

1. Print all Employees and their information (sorted by ascending id #)
2. Find and display Employee information given the Employee id
3. Add a new Employee (along with all the information)
4. Delete an Employee given the id
5. Rollback
6. Exit