

# Programming Assignment 1 -CSI 508

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Time Spent: 17 hours

Environment Set up and Ant Installation (45 minutes)

Part 1: Fields and Tuples (2 hours)

Days Spend: 8 September (1 hour) and 9 September (1 hour)

- In this part, I have to implement `getType(int i)` method, so for that I just put condition in If statement which states that index `i` is less than length and greater than and equal to zero.
- In this part, I have to implement `toString()` method, so for that I just took one empty string and put it in a for loop with if else condition and done some similar things in tuple file.

## **Part2: Catalog (2 hours)**

Days Spend: 10 September (1 hour) and 13 September (1 hour)

- In `getTableId` method, I just checked if-else condition to check whether string is null or not and return as per condition.
- In `getTupleDesc` and `getDbFile` method, checked if-else condition and return as per condition.

## **Part3: BufferPool (3 hours)**

Day Spend: 13 September

- In this BufferPool, I just set number pages limit equal to 50 and through exception by if-else condition and return as per conditions. This was little complex compare to above two parts.

#### **Part4: HeapPage Access (2 hour)**

Days Spend: 16 September and 18 September

- In this part, I compare entryID and entryCount() with if-else and return and for iterator, I have to create ArrayList and add elements through for loop and return elements as mentioned in question part.

#### **Part5: HeapFile Access (4 hours)**

Days Spend: 19,20,21,27 September

- In readPage method, accessing random file for fully reading and using if-else condition I just checking that random file length is always less than offset and BufferPool PageSize.
- I tried to implement hasNext() for checking whether iterator is null or not and gave return according to condition, and same for next() method but not get successfully output.

#### **Part6: HeapPage Mutability (3 hours)**

Days Spend: 23,24,27 September

- In addTuple method, question say all things through some syntax which is given in part. I must just increase entry counter and save tuple location.
- In deleteTuple method, I should delete tuple from its location and save it to -1 at that point. I tried it but It didn't successfully compile.