FlipChat Database

1. Stored Procedures (15 pts.)

- A procedure that looks for the id of the highest bidder for a selected product and assigns it to the product.

- SQL file: q1_statements.sql

- Output file: q1_output.txt

- Screenshots: q1_screenshots.pdf

2. App in Java (50 pts.)

- Text User Interface that provides users with 6 following options:

```
1) Show new products
2) Add a new product
3) Show user products
4) Place a bid
5) Get product comments
6) Exit
```

- Source code: app/src/com/flipchat/

- Compiled application: q2_app.jar

    - *Note 1*: to run execute `java -jar q2_app.jar` in Terminal
    - *Note 2*: JDK 1.8+ is required to run the app

- Output file: q2_output.txt

- Screenshots: q2_screenshots.pdf

3. Indexes (10 pts.)

- See file: q3_statements.sql
- Index on product titles
    - An index on product titles is useful because it allows users to quickly find desired products on the application. In fact, a potential search feature for products could be implemented more efficiently using this index.
    - Furthermore, any SELECT statement based on a product title would execute much faster. For instance, a SELECT query searching for products whose name starts with an “A” would run faster using this index.
- Index on category names
    - An index on category names is useful because it allows users to quickly find categories that interest them. For example, a user trying to find a category which sells “Phones” could poll the database using a SELECT statement, filtering for categories starting with this keyword. This index would make such a query execute much more quickly.
    - In addition, admin users can search for the categories they did not create more efficiently. In fact, a SELECT query looking for a desired category name would run faster, potentially avoiding the DBMS from searching through every data page for a specific category name.

4. Database Statistics (15 pts.)

- Question cancelled!

5. Creativity points (10 pts.)

- A trigger that is executed when a new product is inserted into the products table. Upon execution it calls update_category() procedure in order to update product count in category table.
- SQL file: q5_statements.sql
- Screenshots: q5_screenshots.pdf