

# **Group 1**

## **Mathematics and Computing**

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# TABLES & CONSTRAINTS

## user

1. userID :int(5), not null, auto increment
2. username : varchar(30), alternate indexing (B-Tree), not null
3. first name: varchar(30), not null
4. last name: varchar(30), not null
5. emailID: varchar(50), not null
6. password: varchar(165), not null, (because of the SHA-1 algorithm size)
7. profilePicUrl: varchar(100)
8. aboutMe: text
9. PRIMARY KEY(userID)
10. UNIQUE (username)
11. UNIQUE (emailID)
12. INDEX index\_name USING Btree (username)

## interests

1. userID: int(5), not null
2. interest: varchar(50), not null
3. PRIMARY KEY(userID, interest)
4. FOREIGN KEY userID REFERENCES user ON DELETE CASCADE ON UPDATE CASCADE

## follows

1. follower: int(5), not null

2. followee: int(5), not null
3. PRIMARY KEY(follower, followee)
4. FOREIGN KEY follower REFERENCES user ON DELETE CASCADE ON UPDATE CASCADE
5. FOREIGN KEY followee REFERENCES user ON DELETE CASCADE ON UPDATE CASCADE

#### article

1. articleID: int(5), not null, auto increment
2. articleFilePath: varchar(100), not null
3. lastModified: timestamp, not null, default CURRENT\_TIMESTAMP
4. PRIMARY KEY(articleID)

#### writesArticle

1. userID: int(5), not null
2. articleID: int(5), not null
3. version: int(3), not null
4. articleFilePath: varchar(100), not null
5. writtenAt: timestamp, not null, default CURRENT\_TIMESTAMP
6. PRIMARY KEY(userID, articleID, version)
7. FOREIGN KEY userID REFERENCES user ON DELETE CASCADE ON UPDATE CASCADE
8. FOREIGN KEY articleID REFERENCES article ON DELETE CASCADE ON UPDATE CASCADE

#### activeUsers

1. randomString: char(10), not null

2. userID: int(5), not null
3. ip: char(15)
4. loggedInAt: timestamp, default CURRENT\_TIMESTAMP
5. PRIMARY KEY(randomString, userID)
6. FOREIGN KEY userID REFERENCES user ON DELETE CASCADE ON UPDATE CASCADE

#### blog

1. userID: int(5), not null, auto increment
2. blogID: int(5), not null
3. blogFilePath: varchar(100), not null
4. writtenAt: timestamp, not null, default CURRENT\_TIMESTAMP
5. PRIMARY KEY(blogID)
6. INDEX index\_name USING Btree (userID)
7. FOREIGN KEY userID REFERENCES user ON DELETE CASCADE ON UPDATE CASCADE

#### comment

1. commentID: int(3), not null
2. blogID: int(5), not null
3. userID: int(5), not null
4. comment: text, not null
5. writtenAt: timestamp, not null, default CURRENT\_TIMESTAMP
6. PRIMARY KEY(commentID, blogID)
7. INDEX index\_name USING Btree (userID)
8. FOREIGN KEY userID REFERENCES user ON DELETE CASCADE ON UPDATE CASCADE

9. FOREIGN KEY blogID REFERENCES blog ON DELETE CASCADE ON UPDATE CASCADE

#### reply

1. replyID: int(2), not null
2. commentID: int(3), not null
3. blogID: int(5), not null
4. userID: int(5), not null
5. reply: text, not null
6. writtenAt: timestamp, not null, default CURRENT\_TIMESTAMP
7. PRIMARY KEY(replyID, commentID, blogID)
8. INDEX index\_name USING Btree (userID)
9. FOREIGN KEY userID REFERENCES user ON DELETE CASCADE ON UPDATE CASCADE
10. FOREIGN KEY commentID, blogID REFERENCES comment ON DELETE CASCADE ON UPDATE CASCADE

#### likes\_dislikes

1. userID: int(5), not null
2. blogID: int(5), not null
3. choice: boolean, not null
4. PRIMARY KEY (userID, blogID)
5. FOREIGN KEY userID REFERENCES user ON DELETE CASCADE ON UPDATE CASCADE
6. FOREIGN KEY blogID REFERENCES blog ON DELETE CASCADE ON UPDATE CASCADE

#### articleTag

1. articleID: int(5), not null
2. tag: varchar(100), not null
3. PRIMARY KEY (articleID, tag)
4. FOREIGN KEY articleID REFERENCES article ON DELETE CASCADE ON UPDATE CASCADE

#### blogTag

1. blogID: int(5), not null
2. tag: varchar(100), not null
3. PRIMARY KEY (blogID, tag)
4. FOREIGN KEY blogID REFERENCES blog ON DELETE CASCADE ON UPDATE CASCADE

#### articleKeyword

1. articleID: int(5), not null
2. keyword: varchar(100), not null
3. occurences: int(2), not null, default 0
4. PRIMARY KEY (articleID, keyword)
5. FOREIGN KEY articleID REFERENCES article ON DELETE CASCADE ON UPDATE CASCADE

#### blogKeyword

1. blogID: int(5), not null
2. keyword: varchar(100), not null
3. occurences: int(2), not null, default 0
4. PRIMARY KEY (blogID, keyword)
5. FOREIGN KEY blogID REFERENCES blog ON DELETE CASCADE ON UPDATE CASCADE

## CREATE TABLE COMMANDS

```
mysql> CREATE TABLE `user` (  
  `userID` int(5) NOT NULL AUTO_INCREMENT,  
  `username` varchar(30) NOT NULL,  
  `firstName` varchar(30) NOT NULL,  
  `lastName` varchar(30) NOT NULL,  
  `emailID` varchar(100) NOT NULL,  
  `password` varchar(165) NOT NULL,  
  `profilePicPath` varchar(100) DEFAULT NULL,  
  `aboutMe` text,  
  PRIMARY KEY (`userID`),  
  UNIQUE KEY `username_uk` (`username`),  
  UNIQUE KEY `email_uk` (`emailID`),  
  KEY `username_ind` (`username`) USING BTREE  
);
```

Query OK, 0 rows affected (0.12 sec)

```
mysql> CREATE TABLE `interests` (  
  `userID` int(5) NOT NULL,  
  `interest` varchar(50) NOT NULL,  
  PRIMARY KEY (`userID`,`interest`),  
  CONSTRAINT `interests_ibfk_1` FOREIGN KEY (`userID`) REFERENCES  
  `user` (`userID`) ON DELETE CASCADE ON UPDATE CASCADE  
);
```

Query OK, 0 rows affected (0.11 sec)

```
mysql> CREATE TABLE `follows` (  
  `follower` int(5) NOT NULL,  
  `followee` int(5) NOT NULL,  
  PRIMARY KEY (`follower`,`followee`),  
  KEY `followee` (`followee`),  
  CONSTRAINT `follows_ibfk_1` FOREIGN KEY (`follower`) REFERENCES  
  `user` (`userID`) ON DELETE CASCADE ON UPDATE CASCADE,  
  CONSTRAINT `follows_ibfk_2` FOREIGN KEY (`followee`) REFERENCES  
  `user` (`userID`) ON DELETE CASCADE ON UPDATE CASCADE  
);
```

Query OK, 0 rows affected (0.16 sec)

```
mysql> CREATE TABLE `article` (  
  `articleID` int(5) NOT NULL AUTO_INCREMENT,  
  `articleFilePath` varchar(100) NOT NULL,  
  `lastModified` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP,  
  PRIMARY KEY (`articleID`)  
);
```

Query OK, 0 rows affected (0.13 sec)

```
mysql> CREATE TABLE `writesArticle` (  
  `userID` int(5) NOT NULL,  
  `articleId` int(5) NOT NULL,  
  `version` int(3) NOT NULL,  
  `articleFilePath` varchar(100) NOT NULL,
```

```

        `writtenAt` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP ON UPDATE
CURRENT_TIMESTAMP,
        PRIMARY KEY (`userID`,`articleId`,`version`),
        KEY `articleId` (`articleId`),
        CONSTRAINT `writesArticle_ibfk_1` FOREIGN KEY (`userID`) REFERENCES
`user` (`userID`) ON DELETE CASCADE ON UPDATE CASCADE,
        CONSTRAINT `writesArticle_ibfk_2` FOREIGN KEY (`articleId`)
REFERENCES `article` (`articleID`) ON DELETE CASCADE ON UPDATE CASCADE
);

```

Query OK, 0 rows affected (0.14 sec)

```

mysql> CREATE TABLE `activeUsers` (
        `userID` int(5) NOT NULL,
        `randomString` char(10) NOT NULL,
        `ip` char(15) DEFAULT NULL,
        `loggedInAt` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP,
        PRIMARY KEY (`userID`,`randomString`),
        CONSTRAINT `activeUsers_ibfk_1` FOREIGN KEY (`userID`) REFERENCES
`user` (`userID`) ON DELETE CASCADE ON UPDATE CASCADE
);

```

Query OK, 0 rows affected (0.11 sec)

```

mysql> CREATE TABLE `blog` (
        `blogID` int(5) NOT NULL AUTO_INCREMENT,
        `userID` int(5) NOT NULL,
        `blogFilePath` varchar(100) NOT NULL,
        `writtenAt` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP,
        PRIMARY KEY (`blogID`),
        KEY `user_ind` (`userID`) USING BTREE,
        CONSTRAINT `blog_ibfk_1` FOREIGN KEY (`userID`) REFERENCES `user`
(`userID`) ON DELETE CASCADE ON UPDATE CASCADE
);

```

Query OK, 0 rows affected (0.10 sec)

```

mysql> CREATE TABLE `comment` (
        `commentID` int(3) NOT NULL,
        `blogID` int(5) NOT NULL,
        `userID` int(5) NOT NULL,
        `comment` text NOT NULL,
        `writtenAt` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP,
        PRIMARY KEY (`commentID`,`blogID`),
        KEY `user_ind` (`userID`) USING BTREE,
        KEY `blogID` (`blogID`),
        CONSTRAINT `comment_ibfk_1` FOREIGN KEY (`userID`) REFERENCES `user`
(`userID`) ON DELETE CASCADE ON UPDATE CASCADE,
        CONSTRAINT `comment_ibfk_2` FOREIGN KEY (`blogID`) REFERENCES `blog`
(`blogID`) ON DELETE CASCADE ON UPDATE CASCADE
);

```

Query OK, 0 rows affected (0.15 sec)

```

mysql> CREATE TABLE `reply` (
        `replyID` int(2) NOT NULL,

```



```

`commentID` int(3) NOT NULL,
`blogID` int(5) NOT NULL,
`userID` int(5) NOT NULL,
`reply` text NOT NULL,
`writtenAt` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP,
PRIMARY KEY (`replyID`,`commentID`,`blogID`),
KEY `user_ind` (`userID`) USING BTREE,
KEY `commentID` (`commentID`,`blogID`),
CONSTRAINT `reply_ibfk_1` FOREIGN KEY (`userID`) REFERENCES `user`
(`userID`) ON DELETE CASCADE ON UPDATE CASCADE,
CONSTRAINT `reply_ibfk_2` FOREIGN KEY (`commentID`,`blogID`)
REFERENCES `comment` (`commentID`,`blogID`) ON DELETE CASCADE ON
UPDATE CASCADE
);

```

Query OK, 0 rows affected (0.17 sec)

```

mysql> CREATE TABLE `likes_dislikes` (
  `userID` int(5) NOT NULL,
  `blogID` int(5) NOT NULL,
  `choice` tinyint(1) NOT NULL,
  PRIMARY KEY (`userID`,`blogID`),
  KEY `blogID` (`blogID`),
  CONSTRAINT `likes_dislikes_ibfk_1` FOREIGN KEY (`userID`) REFERENCES
`user` (`userID`) ON DELETE CASCADE ON UPDATE CASCADE,
  CONSTRAINT `likes_dislikes_ibfk_2` FOREIGN KEY (`blogID`) REFERENCES
`blog` (`blogID`) ON DELETE CASCADE ON UPDATE CASCADE
);

```

Query OK, 0 rows affected (0.16 sec)

```

mysql> CREATE TABLE `articleTag` (
  `articleID` int(5) NOT NULL,
  `tag` varchar(100) NOT NULL,
  PRIMARY KEY (`articleID`,`tag`),
  CONSTRAINT `articleTag_ibfk_1` FOREIGN KEY (`articleID`) REFERENCES
`article` (`articleID`) ON DELETE CASCADE ON UPDATE CASCADE
);

```

Query OK, 0 rows affected (0.13 sec)

```

mysql> CREATE TABLE `blogTag` (
  `blogID` int(5) NOT NULL,
  `tag` varchar(100) NOT NULL,
  PRIMARY KEY (`blogID`,`tag`),
  CONSTRAINT `blogTag_ibfk_1` FOREIGN KEY (`blogID`) REFERENCES `blog`
(`blogID`) ON DELETE CASCADE ON UPDATE CASCADE
);

```

Query OK, 0 rows affected (0.10 sec)

```

mysql> CREATE TABLE `articleKeyword` (
  `articleID` int(5) NOT NULL,
  `keyword` varchar(100) NOT NULL,
  `occurrences` int(2) NOT NULL DEFAULT '1',
  PRIMARY KEY (`articleID`,`keyword`),

```

```
    CONSTRAINT `articleKeyword_ibfk_1` FOREIGN KEY (`articleID`)
REFERENCES `article` (`articleID`) ON DELETE CASCADE ON UPDATE CASCADE
);
```

Query OK, 0 rows affected (0.12 sec)

```
mysql> CREATE TABLE `blogKeyword` (
  `blogID` int(5) NOT NULL,
  `keyword` varchar(100) NOT NULL,
  `occurrences` int(2) NOT NULL DEFAULT '1',
  PRIMARY KEY (`blogID`,`keyword`),
  CONSTRAINT `blogKeyword_ibfk_1` FOREIGN KEY (`blogID`) REFERENCES
`blog` (`blogID`) ON DELETE CASCADE ON UPDATE CASCADE
);
```

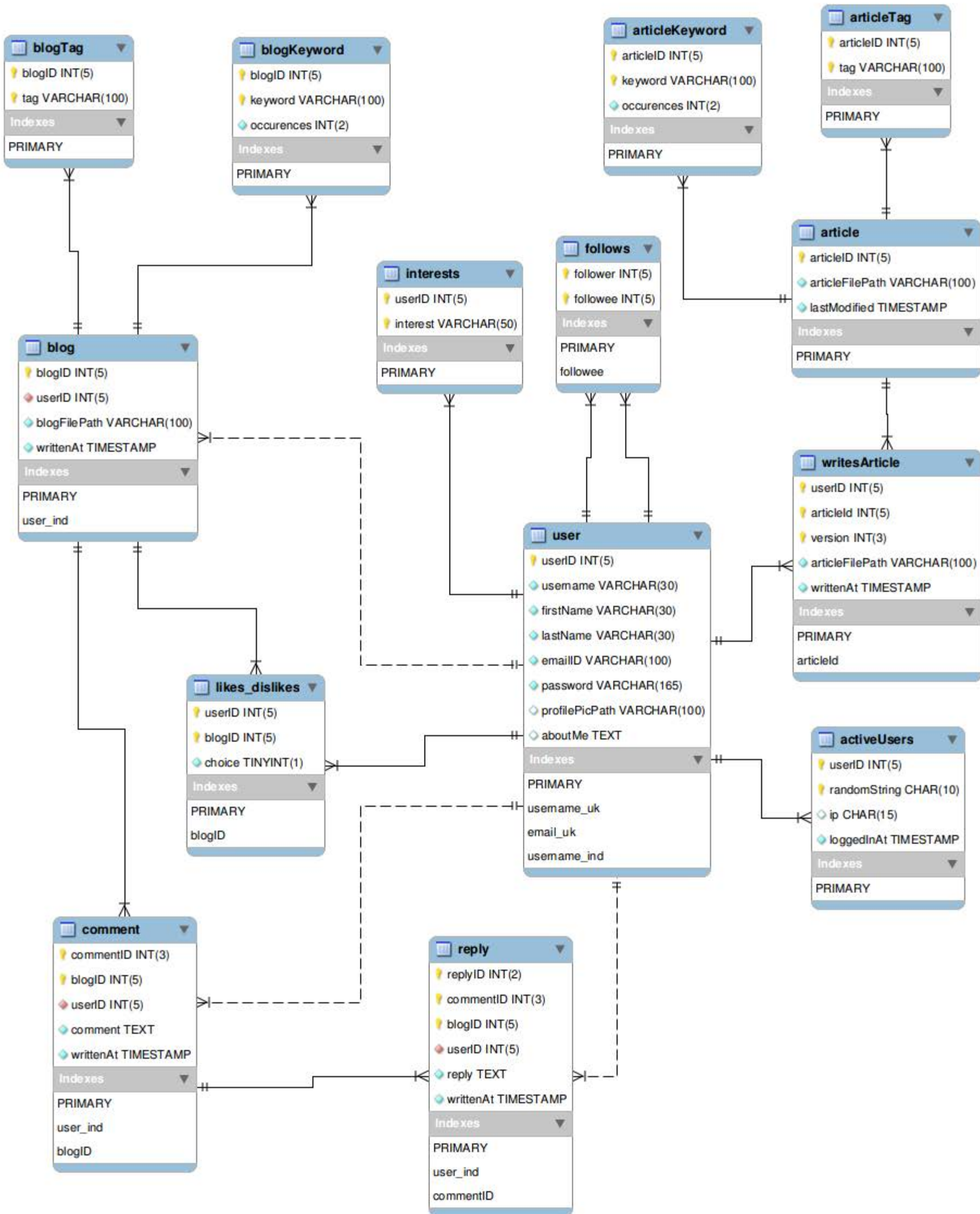
Query OK, 0 rows affected (0.12 sec)

```
mysql> show tables;
```

```
+-----+
| Tables_in_mchirag_wikiblog |
+-----+
| activeUsers                |
| article                    |
| articleKeyword              |
| articleTag                  |
| blog                        |
| blogKeyword                 |
| blogTag                     |
| comment                     |
| follows                     |
| interests                   |
| likes_dislikes              |
| reply                       |
| user                        |
| writesArticle               |
+-----+
```

14 rows in set (0.00 sec)

## Relational Schema



E-R Diagram/Schema

