

# CS2102 Project Report

## Geekster

*Geekster is a social networking website that aims to create a community for geeks where they can interact and discuss about all the latest global tech news*



### Group 21

November 5th , 2012

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# INTRODUCTION

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Geekster is a social networking site that enables users to create ,find and join geek communities of their interest. After joining the communities, members can discuss and network with one another through topics and posts. The users can search for the communities by name or category. The search results can be sorted on the basis of ‘most popular’ , ‘recently active’ and ‘most members’. The website also has a newsfeed page where the user can see the recent posts by the members of his/her group. This page features a list of worldwide popular groups and also suggests groups for the users to join based on the categories of the communities he is already a part of.

# DESIGN

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The system consists of three main components namely database design, database server and webpage. The database design includes the database schema and E-R diagram which illustrates the structure of the database. The database server is implemented using MySQL which is a Relational Database Management System( RDBMS) and the webpage is designed using HTML,CSS,PHP and JavaScript. The website is hosted on Amazon Web Server.

The Database geekster\_db consists of 5 tables ‘community’, ‘member\_of’ , ‘posts’, ‘profile’ and ‘topic’ and a view, ‘popular\_groups’. The E-R diagram shows the constraints on the minimum and maximum cardinality of the participation of each relationship. The cardinality of ‘topic’ entity in ‘community – has – topic’ relation and that of ‘posts’ entity in ‘topic – has – posts’ relation is (1,1). Hence the ‘Has’ relationship in each case has been combined with the entity itself forming the tables ‘topic’ and ‘posts’. From the diagram, it can also be seen that ‘topic’ and ‘posts’ tables are weak entities and hence the primary key of these tables are a combination of the primary keys of both members of the relationship.

The functional dependencies in the tables are kept to a minimum and the tables adhere to the BCNF (Boyce-Codd Normal Form).

# WEBSITE URL

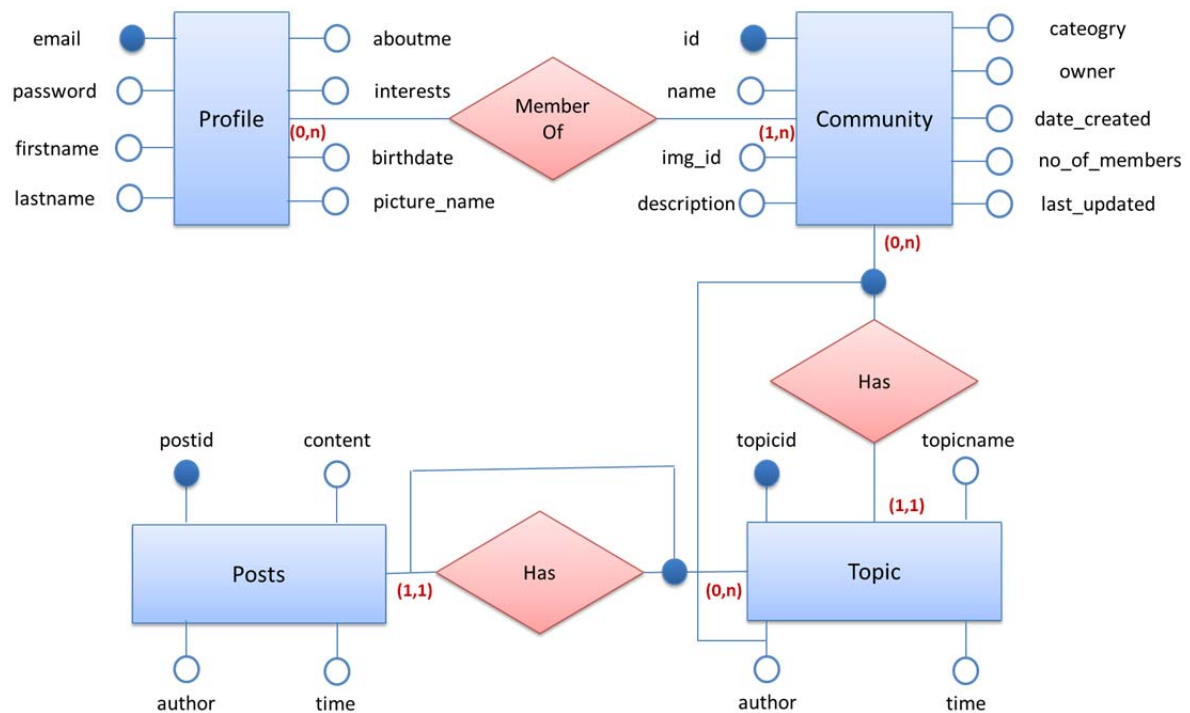
---

The website can be accessed at the following link :

<http://ec2-54-251-7-237.ap-southeast-1.compute.amazonaws.com/socialnetwork/login.php>

## ENTITY RELATIONSHIP DIAGRAM

---



## TOOLS USED

---

Web Server	- ec2-54-251-7-237.ap-southeast-1.compute.amazonaws.com
Server Page Language	- PHP
Client Side Languages	- HTML, CSS, JavaScript
Database Management System	- MySQL (RDBMS)

# RELATIONAL SCHEMA IN DATA DEFINITION LANGUAGE

---

## DDL for Table 'Profile'

```
CREATE TABLE profile (  
    firstname VARCHAR(256) NOT NULL,  
    lastname VARCHAR (256) NOT NULL,  
    password VARCHAR (256) NOT NULL,  
    email VARCHAR(256) NOT NULL,  
    picture_name VARCHAR(32) NOT NULL ,  
    aboutme VARCHAR(256) DEFAULT NULL,  
    interests VARCHAR(256) DEFAULT NULL,  
    birthdate DATE DEFAULT NULL,  
    PRIMARY KEY(email)  
)
```

## DDL for Table 'Community'

```
CREATE TABLE community
(
  name VARCHAR(256) NOT NULL,
  id INTEGER(11) NOT NULL AUTO_INCREMENT,
  img_id VARCHAR(128) DEFAULT NULL,
  description VARCHAR(256) DEFAULT NULL,
  category VARCHAR(256) DEFAULT 'OTHERS',
  owner VARCHAR(256) ,
  date_created DATE NOT NULL,
  no_of_members INTEGER(11) DEFAULT NULL,
  last_updated TIMESTAMP DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
  PRIMARY KEY (id),
  FOREIGN KEY (owner) REFERENCES profile(email) ON UPDATE CASCADE ON DELETE CASCADE
)
```

## DDL for Table 'Member\_Of'

```
CREATE TABLE member_of
(
  member VARCHAR (256) ,
  communityid INTEGER(11) ,
  PRIMARY KEY( member, communityid),
  FOREIGN KEY(member) REFERENCES profile(email) ON UPDATE CASCADE ON DELETE CASCADE,
  FOREIGN KEY(communityid) REFERENCES community(id) ON UPDATE CASCADE ON DELETE CASCADE
)
```

## DDL for Table 'Topic'

```
CREATE TABLE topic
(
    topicid INTEGER NOT NULL AUTO_INCREMENT,
    communityid INTEGER(11) ,
    topicname VARCHAR(256) NOT NULL,
    time TIMESTAMP DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
    author VARCHAR(256) ,
    PRIMARY KEY (topicid, communityid),
    FOREIGN KEY(communityid) REFERENCES community(id),
    FOREIGN KEY(author) REFERENCES profile(email) ON UPDATE CASCADE ON DELETE CASCADE
)
```

## DDL for Table 'Posts'

```
CREATE TABLE posts
(
    postid INTEGER(11) NOT NULL AUTO_INCREMENT,
    topicid INTEGER(11),
    communityid INTEGER(11),
    author VARCHAR (256),
    content VARCHAR(256),
    time TIMESTAMP DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
    PRIMARY KEY ( postid, topicid, communityid),
    FOREIGN KEY(topicid) REFERENCES topic(topicid) ON UPDATE CASCADE ON DELETE CASCADE,
    FOREIGN KEY(communityid) REFERENCES community(id) ON UPDATE CASCADE ON DELETE CASCADE,
    FOREIGN KEY(author) REFERENCES profile(email)ON UPDATE CASCADE ON DELETE CASCADE )
```



## DDL for View 'Popular\_groups'

```
CREATE VIEW popular_groups(id, community, no_posts, last_updated)
AS SELECT c.id, c.name, COUNT(*), c.last_updated
      FROM community c, topic t, posts p
      WHERE c.id = t.communityid AND t.topicid = p.topicid GROUP BY c.name
```

# REPRESENTATIVE SQL CODE

---

## Insertion into tables

### Table 'Profile'

```
INSERT INTO profile
(firstname, lastname, password, email, aboutme, interests, birthdate)
VALUES ('Krithika', 'Sundararajan', 'bumblebee', 'krithika369@gmail.com', 'I am a Computer
engineering student at the National University of Singapore', 'Music, Poems, Sitcoms', 1992-
03-10)
```

*During registration, the user only needs to enter values for the first four attributes. The rest of the attribute values can be updated through the Edit Profile page*

Example:

```
UPDATE profile SET aboutme = 'I am an animal-lover'
WHERE email= "vgswetha@gmail.com";
```

### Table 'Community'

```
INSERT INTO community
(name, img_id, description, category, owner, date_created, no_of_members, last_updated)
VALUES ('CS2102 Project', NULL, 'For discussions and online meetings', 'database systems',
'vgswetha@gmail.com', '2012-11-04', 3, '2012-11-04 15:58:12')
```

*The id attribute is auto incremented. The columns last\_updated and no\_of\_members are updated as new topics are posted to the community wall and new users join the community respectively.*

Example :

```
UPDATE community SET last_updated = current_timestamp() WHERE id = 1;
```

### Table 'Member\_Of'

```
INSERT INTO member_of (member, communityid)
VALUES ("vgswetha@gmail.com", 2)
```

*These attributes are updated whenever a user joins a community.*

### Table 'Topic'

```
INSERT INTO topic (topicid, communityid, topicname, time, author)
VALUES (2, 6, 'Can someone tell me keyboard shortcuts in Windows 8?', '2012-11-04
07:02:35', 'vgswetha@gmail.com')
```

*The topicid attribute is auto – incremented. The communityid is updated automatically based on which group's wall the user is posting to.*

### Table 'Posts'

```
INSERT INTO posts (postid, topicid, communityid, author, content, time)
VALUES (2, 3, 7, 'ln@gmail.com', 'Do you have experience with any other OOP language?',
'2012-11-04 07:18:22')
```

*The postid attribute is auto – incremented. The communityid and topicid are updated automatically based on which group's wall the user is posting to and which topic he is replying to.*

## Search and Sort

### 1. Search by name

```
SELECT c.name ,c.category, c.description , c.id FROM community c
WHERE c.name LIKE '%" . $_SESSION['name'] . "%'
```

### 2. Search by category

```
SELECT c.name ,c.category, c.description , c.id FROM community c
WHERE c.category LIKE '%" . $_SESSION['cat'] . "%'
```

### 3. Search by name and Sort results by

#### i) Recently Active

```
SELECT c.name ,c.category, c.description, c.id, c.last_updated FROM community c
WHERE c.name LIKE '%'. $_SESSION['name']. '%'
ORDER BY c.last_updated DESC
```

#### ii) Most Members

```
SELECT c.name ,c.category, c.description, c.id , c.no_of_members
FROM community c
WHERE c.name Like '%'. $_SESSION['name']. '%'
ORDER BY c.no_of_members DESC
```

#### iii) Most Active

```
SELECT c.name, c.category , c.description, c.id , p.no_posts, p.last_updated
FROM community c, popular_groups p
WHERE c.name LIKE '%'. $_SESSION['name']. '%' AND c.id =p.id
ORDER BY p.no_posts desc, p.last_updated DESC

SELECT c.name, c.category , c.description, c.id
FROM community c
WHERE c.name LIKE '%'. $_SESSION['name']. '%'
AND c.id NOT IN ( SELECT p.id FROM popular_groups p )
ORDER BY c.last_updated DESC
```

### 4. Search by category and Sort results by

#### i) Recently Active

```
SELECT c.name ,c.category, c.description, c.id, c.last_updated
FROM community c
WHERE c.category LIKE '%'. $_SESSION['cat']. '%'
ORDER BY c.last_updated DESC
```

#### iii) Most Active

```
SELECT c.name, c.category , c.description, c.id , p.no_posts, p.last_updated
FROM community c, popular_groups p
WHERE c.category LIKE '%'. $_SESSION['cat']. '%' AND c.id = p.id
ORDER BY p.no_posts desc, p.last_updated DESC

SELECT c.name, c.category , c.description, c.id
FROM community c
WHERE c.category LIKE '%'. $_SESSION['cat']. '%'
AND c.id NOT IN ( SELECT p.id FROM popular_groups p )
ORDER BY c.last_updated DESC
```

## 5. Search and Sort for Newsfeed

### i) My Groups

```
SELECT c.id, c.name, c.last_updated
FROM community c, profile p, member_of mo, topic t
WHERE p.email = $_SESSION['user'] AND p.email = mo.member AND mo.communityid
= c.id AND t.communityid = c.id
GROUP BY c.id, c.name, c.last_updated
ORDER BY c.last_updated
```

```
SELECT c.id, c.name, c.last_updated FROM community c, profile p, member_of mo
WHERE p.email = $_SESSION['user'] AND p.email = mo.member AND mo.communityid
= c.id
AND c.id NOT IN(SELECT t.communityid FROM topic t)
GROUP BY c.id, c.name, c.last_updated
ORDER BY c.last_updated
```

```
SELECT t.topiconid, t.topiconname, t.author, t.time FROM topic t
WHERE t.communityid = $rowres1a['id']
$rowres1a['id'] is the community id obtained from the previous 2 queries
```

```
SELECT firstname, lastname FROM profile WHERE email = $rowres2['author']
$rowres2['author'] is the email id obtained from the previous query
```

### ii) Popular Groups

```
SELECT MAX(last_updated) FROM popular_groups

SELECT $max_last_updated - INTERVAL '5' DAY AS mintime FROM popular_groups

SELECT p.id, p.community FROM popular_groups p
WHERE $max_last_updated >= p.last_updated AND p.last_updated >=
$min_last_updated
```

## Updation

```
UPDATE profile set firstname = '$first' WHERE email= ".$user

UPDATE profile set lastname = '$last' WHERE email= ".$user

UPDATE profile set birthdate = '$bdate' WHERE email= ".$user

UPDATE profile set aboutme = '$about' WHERE email= ".$user

UPDATE profile set interests = '$interest' WHERE email= ".$user
```

## Deletion

### 1. Community

*If a community exists and user is the owner, he/she can delete the community*

```
DELETE from community where id = ".$communityid
```

### 2. Member\_Of

```
DELETE FROM member_of WHERE communityid =$communityid and member = $user
```

### 3. Topic

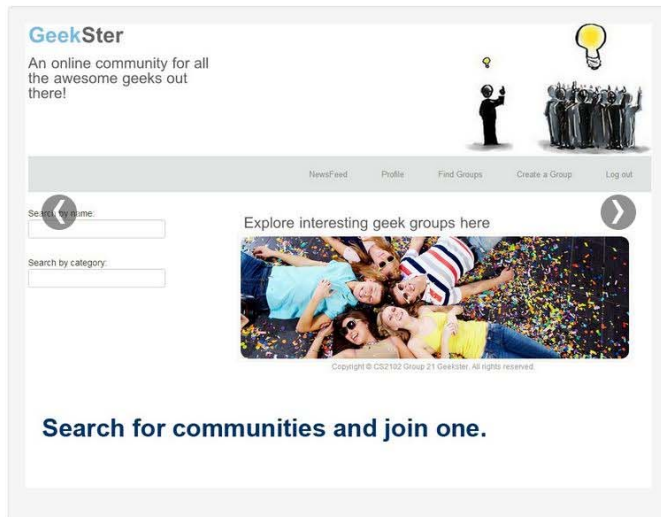
```
DELETE from topic where communityid = ".$communityid
```

### 4. Posts

```
DELETE from posts where communityid = ".$communityid
```

# SCREENSHOTS

## Registration



The screenshot shows the GeekSter registration page. At the top, the logo 'GeekSter' is followed by the tagline 'An online community for all the awesome geeks out there!'. Below this is a navigation bar with links: 'NewsFeed', 'Profile', 'Find Groups', 'Create a Group', and 'Log out'. The main content area features a search bar with 'Search by name:' and 'Search by category:' labels. To the right, there's a section titled 'Explore interesting geek groups here' with a large image of a group of people. Below the image, it says 'Copyright © CS2102 Group 21 Geekster. All rights reserved.' At the bottom, a large blue button says 'Search for communities and join one.'

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**GeekSter**

An online community for all the awesome geeks out there!

Name

Firstname

Lastname

Username

Enter Email here...

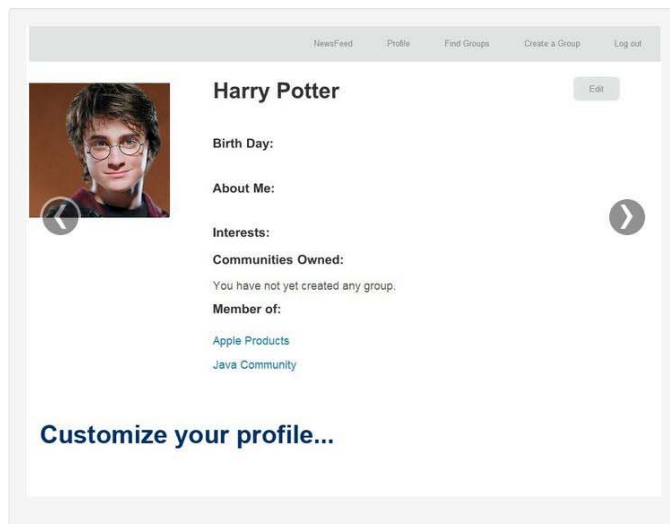
Password

Type Password here...

Re-Type Password here...

Registered Users Login here!

## Login



The screenshot shows a user profile page for 'Harry Potter'. The profile picture is a small image of Harry Potter. To the right of the picture is the name 'Harry Potter' and an 'Edit' button. Below the name are sections for 'Birth Day:', 'About Me:', 'Interests:', 'Communities Owned:', and 'Member of:'. The 'Communities Owned:' section says 'You have not yet created any group.' The 'Member of:' section lists 'Apple Products' and 'Java Community'. At the bottom, a large blue button says 'Customize your profile...'

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**GeekSter**

An online community for all the awesome geeks out there!

Username


Type Username here...

Password

Type Password here...

Don't have an account yet?

## Profile



Filename:  
 No file chosen

Communities Owned

None

Member of

None

NewsFeedProfileFind GroupsCreate a GroupLog out

First Name | Last Name

Birth Day:

About Me:


I am Chemical engineering student in National University of Singapore.

Interests:

Thermodynamics, Bio-chemistry

An online community for all the awesome geeks out there!

You have gone full screen. [Exit full screen \(F11\)](#)



**Swetha Vishnampet**

Birth Day:  
1992-07-16

About Me:  
I am currently studying Computer Engineering in National University of Singapore

Interests:  
Music, Programming

Communities Owned:  
You have not yet created any group.

Member of:

[Apple Products](#)

[iOS](#)

[Java Community](#)

NewsFeedProfileFind GroupsCreate a GroupLog out

Swetha Vishnampet

1992-07-16

I am currently studying Computer Engineering in National University of Singapore

Music, Programming

You have not yet created any group.

[Apple Products](#)

[iOS](#)

[Java Community](#)

## Newsfeed

### GeekSter

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[NewsFeed](#)[Profile](#)[Find Groups](#)[Create a Group](#)[Log out](#)

### Hi Ambika!

#### My Groups

##### Apple Products

2012-11-04 20:39:32

I have got the MacBook Air! It is unbelievable! - Inian Parameshwaran

2012-11-04 07:36:05

##### Java Community

2012-11-04 20:40:35

Can someone guide me on the best way to learn Java from scratch? - Monika Puhazhendhi

2012-11-04 07:12:22

Hi, I am new here! If anybody needs help with Java stuff, you can ping me anytime. - Moni P

2012-11-04 07:30:11

Can somebody explain how function calls in Java are different from those in C or C++? - Krithika Sundararajan

2012-11-04 09:08:14

#### Popular Groups

##### Apple Products

##### iOS

##### Java Community

#### Suggested Groups

No groups with the same categories have been found

## Find Groups

### 1) Searching by category

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[NewsFeed](#)[Profile](#)[Find Groups](#)[Create a Group](#)[Log out](#)

Search by name:

Search by category:

Programming

Search by category

Explore interesting geek groups here



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## 2) Search Results

[NewsFeed](#) [Profile](#) [Find Groups](#) [Create a Group](#) [Log out](#)

Search by name:

Search by category:

Sort by  

Select...

**CS2102 Project**

ID :5  
Category :database systems  
Description: For discussions and online meetings

**Java Community**

ID :7  
Category :Programming Language  
Description: A community for Java developers

**Apple Products**

ID :8  
Category :Apple  
Description: Updates and reviews about the latest Apple products in the market

**iOS**

ID :9  
Category :iOS  
Description: A community for iOS developers

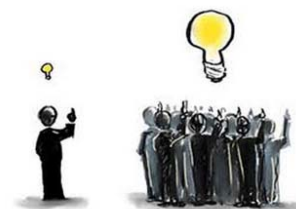
**HTML 5**

ID :10  
Category :Web development

## 3) Sorting Results

### GeekSter

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[NewsFeed](#) [Profile](#) [Find Groups](#) [Create a Group](#) [Log out](#)

Search by name:

Search by category:

Sort by  

Select...  
Select...  
Most popular  
**Most Members**  
Recently active

**CS2102 Project**

ID :5  
Category :database systems  
Description: For discussions and online meetings

**Java Community**

ID :7  
Category :Programming Language  
Description: A community for Java developers

**Apple Products**

ID :8  
Category :Apple  
Description: Updates and reviews about the latest Apple products in the market

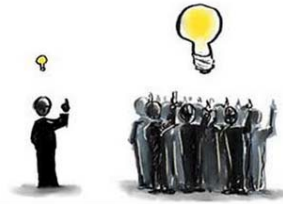
**iOS**

ID :9  
Category :iOS

## Creating Groups

### GeekSter

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#### Create a group

Group name

Description

Category

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## Groups

### 1) Joining A Group

### GeekSter

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[NewsFeed](#)[Profile](#)[Find Groups](#)[Create a Group](#)[Log out](#)

Community Name : iOS

#### Community Details

You are not a member of this Community

Category:

iOS

Description:

A community for iOS developers

Owner:

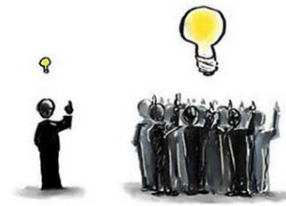
Inian

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## 2) After Joining the Group

### GeekSter

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[NewsFeed](#)[Profile](#)[Find Groups](#)[Create a Group](#)[Log out](#)

Community Name : Java Community

[About](#)[Wall](#)[Members](#)[Leave the Group](#)

#### Community Details

You are a member of this Community

Category:	Java
Description:	A community for Java developers
Owner:	Monika
<input type="button" value="Delete"/>	

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## 3) Group Wall

[NewsFeed](#)[Profile](#)[Find Groups](#)[Create a Group](#)[Log out](#)

iOS

[About](#)[Wall](#)[Members](#)[Leave the Group](#)

What's on your mind?

#### Discussion Topics

Inian Parameshwaran

I have just started coding in iOS. And I am finding it difficult to get good references to learn from. Can someone help me?

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## 4) Discussion Topics and Posts in Group Wall

[NewsFeed](#) [Profile](#) [Find Groups](#) [Create a Group](#) [Log out](#)

Java Community

[About](#) [Wall](#) [Members](#) [Leave the Group](#)

**Topic : Can someone guide me on the best way to learn Java from scratch?**

**Monika Puhazhendhi**  
I have learnt C++ before. Thanks for your help! Appreciate it!

**Lakshmi Narasimhan**  
Because it is easier to learn if you do

**Lakshmi Narasimhan**  
Do you have experience with any other OOP language?

## 5) Group Membership List

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Java Community

[About](#) [Wall](#) [Members](#) [Leave the Group](#)

**Member List**

[Krithika Sundararajan](#)

[Lakshmi Haridas](#)

[Lakshmi Narasimhan](#)

[Moni P](#)

[Monika Puhazhendhi](#)

[Neal Caffrey](#)

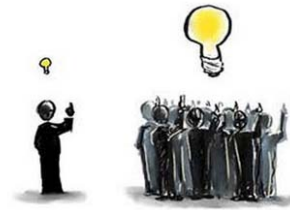
[Swetha Vishnampet](#)

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## 6) Error Message when owner tries to leave his own group

**GeekSter**

An online community for all  
the awesome geeks out  
there!



[NewsFeed](#)

[Profile](#)

[Find Groups](#)

[Create a Group](#)

[Log out](#)

**Python**

[About](#)

[Wall](#)

[Members](#)

[Leave the Group](#)

An owner cannot leave his/her own group

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