

# Tutorial 4 - Chat Logs Analysis

## A. Guidelines for tutors

- Check the list of issues (Section B) given below to see if any are reported for your students.
- If the script is unable to match the Zoom name to the actual name, remind the student to update the zoom name to be closer to the actual name next time. But it is OK for the Zoom name to contain additional things e.g., [PC], matric number, nick name etc.
- If the script has made a mistake in matching names, let me know.  
It's OK if a few of the chat messages are categorized as 'unidentified' because the student changed the chat name halfway, as long as the student's participation is not categorized as **low/none** (i.e., s/he has logged enough responses under the correct name).
- For 'low participation' cases, you can make a note and gently encourage them to answer more next time, but don't push too hard or 'shame' them publicly.  
Note that we consider both message count and timing of messages when deciding if someone meets the bar. Sending a flurry of spam messages within a short period will not qualify. The report below indicates the timing of messages and has a simple timeline graphic to show when the messages were sent.
- For 'no participation' cases:
  - if the student attended but didn't post any answers, follow the point above.
  - if the student didn't attend, follow up with a note such as the following (no need to ask for the reason for absence -- it's not our business).

I noticed that you did not attend the tutorial this week. Hope you can attend future tutorials, as tutorials are counted for participation. In the meantime I strongly encourage you to watch the tutorial recording (link: ...). You can also refer the FAQs related to tutorial absences at the bottom of <https://nus-cs2103-ay2425s2.github.io/website/admin/tutorials.html>

- You can also check the details (section C) of messages to identify those who frequently answers "don't know" or other things that are noteworthy.
- If you could not save the chat log due to a technical glitch, your tutorial is omitted from this report. No action required in that case. We will not penalize the affected students.

---

## B. Summary of issues

1. [CHENG ZIHAO] CS2103T-T11 **NO participation** CHANDRA SHASHWAT
2. [CHENG ZIHAO] CS2103T-T11 **NO participation** STANVE AVRILIUM WIDJAJA
3. [CHENG ZIHAO] CS2103T-T11 **NO participation** VEE HUA ZHI
4. [Chang Si Kai] CS2103-F09 **NO participation** GALVEN SIM YI SIANG
5. [Chang Si Kai] CS2103-F09 **NO participation** TANG MING SHAN
6. [Eric HAN Liang Wee] CS2103-F10 **NO participation** LOW WEIMIN, IAN
7. [JABEZ THO NGEE QI] CS2103T-F10 **NO participation** SUN ZHIYUAN FELIX
8. [JABEZ THO NGEE QI] CS2103T-F10 **LOW participation** TENG CHIN CHONG (2 messages, spanning 6 minutes)

9. [JONAS ONG SI WEI] CS2103-W11 **NO** participation TAY HUA HONG WILLIE
10. [KOO YU CONG] CS2103-F10 **NO** participation NITHVIN LEELAKRISHNAN
11. [KOO YU CONG] CS2103T-F12 **LOW** participation GENG YUDONG (1 messages, spanning 1 minutes)
12. [KOO YU CONG] CS2103T-F12 **LOW** participation ISAAC CHUA QIAN XIANG (4 messages, spanning 11 minutes)
13. [KRISHNAN LINKES VARUN] CS2103T-T16 **LOW** participation HE HAORUI (6 messages, spanning 7 minutes)
14. [KYLE ZHENG CHING CHAN] CS2103T-W09 **NO** participation ERNEST LIM SONG YING
15. [KYLE ZHENG CHING CHAN] CS2103T-W09 **NO** participation ONG LI HONG
16. [Kim Hyeongcheol] CS2103T-T08 **NO** participation LIM TECK WOON, DARREN
17. [Kim Hyeongcheol] CS2103T-T08 **NO** participation YANG YI FEI
18. [Kim Hyeongcheol] CS2103T-T09 **LOW** participation ZHOU XINYANG (5 messages, spanning 20 minutes)
19. [Kim Hyeongcheol] CS2103T-W09 **NO** participation RAEEDA IBNAT HOSSAIN
20. [Kim Hyeongcheol] CS2103T-W12 **LOW** participation LEE YEN SHEN (3 messages, spanning 19 minutes)
21. [Kim Hyeongcheol] CS2103T-W13 **NO** participation LIM TAO LIANG, KIRAN
22. [Kim Hyeongcheol] CS2103T-W13 **LOW** participation ANOOB HAKIM NAEL (5 messages, spanning 7 minutes)
23. [Lee Fang Jie, Jet] CS2103-F08 **NO** participation BOH XIANG YOU BASIL
24. [Lee Fang Jie, Jet] CS2103-F08 **NO** participation FONG KAI JIE
25. [Lee Fang Jie, Jet] CS2103-F08 **NO** participation HWANG MEI QI, FELICIA
26. [Lee Fang Jie, Jet] CS2103-F08 **NO** participation LUM YI REN JOHANNSEN
27. [Lee Fang Jie, Jet] CS2103-F08 **LOW** participation TAY KAI JUN (1 messages, spanning 1 minutes)
28. [NG WEI HAN, RYAN] CS2103T-T14 **LOW** participation WANG HAITAO (7 messages, spanning 8 minutes)
29. [NG WEN LI] CS2103T-F10 **NO** participation HAQUE MALIHA
30. [NG YAN JIE] CS2103-F08 **NO** participation NGUYEN HUY TUNG
31. [NG YAN JIE] CS2103T-F14 **LOW** participation GONG HAOZHEN (1 messages, spanning 1 minutes)
32. [NG YAN JIE] CS2103T-F14 **LOW** participation LI DAOXIN (2 messages, spanning 6 minutes)
33. [Ng Tzer Bin] CS2103T-F12 **NO** participation JENSEN HUANG YAN KAI
34. [Ng Tzer Bin] CS2103T-F12 **NO** participation KIM SEUNG HYUN
35. [Ng Tzer Bin] CS2103T-F13 **LOW** participation LI YANER (2 messages, spanning 10 minutes)

36. [Ng Tzer Bin] CS2103T-W13 **LOW participation** FREDDIE ONG SAY YONG (3 messages, spanning 8 minutes)
  37. [TAN SHI XIN] CS2103T-T17 **LOW participation** LIU JIHAN (6 messages, spanning 10 minutes)
  38. [TAN WEI ZHE] CS2103T-T14 **NO participation** ANG JO ZEE
  39. [TAN WEI ZHE] CS2103T-T14 **NO participation** SELVARAJU NANDITA
  40. [TAY RU XIN] CS2103T-T09 **NO participation** LE HUY CHAU
  41. [TIMOTHY PUTRA PRASETIO] CS2103T-F13 **NO participation** CHIA WEI SONG ANDRE
  42. [TIW KANG XU] CS2103T-T12 **NO participation** AVINASH PARTHIBAN ELANGO VAN
  43. [TIW KANG XU] CS2103T-T12 **NO participation** LIEW ZHAO WEI
  44. [Wayne Zhang Si Yuan] CS2103T-T15 **NO participation** NUR AIN SAKINAH BINTE ZAINUDDIN
- 

## C. Message details

1. [Chen Feng \(F09-1,2\)](#)
2. [Danny\\_ \(T08-3,4\)](#)
3. [Danny\\_ \(T09-3,4\)](#)
4. [Danny\\_ \(W09-3,4\)](#)
5. [Danny\\_ \(W12-1,2\)](#)
6. [Danny\\_ \(W13-3,4\)](#)
7. [Dillon \(T13-1,2\)](#)
8. [Eric \(F10-3,4\)](#)
9. [Jabez \(F10-3,4\)](#)
10. [Javier \(W12-3,4\)](#)
11. [Jet \(F08-1,2\)](#)
12. [Jet \(T08-1,2\)](#)
13. [Jiahao \(T10-1,2\)](#)
14. [Jonas \(F11-3,4\)](#)
15. [Jonas \(W11-1,2\)](#)
16. [Kyle \(W09-1,2\)](#)
17. [Lin Chieh \(T12-3,4\)](#)
18. [Lin Chieh \(T13-3,4\)](#)
19. [Linkes \(T16-1,2\)](#)
20. [Marcus \(T15-3,4\)](#)
21. [Marcus \(T16-3,4\)](#)
22. [Ru Xin \(T09-1,2\)](#)
23. [Ryan \(T14-3,4\)](#)
24. [Shi Xin \(T17-1,2\)](#)
25. [Si Kai \(F09-3,4\)](#)
26. [Si Kai \(F15-3,4\)](#)
27. [Timothy\\_ \(F13-1,2\)](#)
28. [Tiw \(T12-1,2\)](#)
29. [Tzer Bin \(F12-3,4\)](#)
30. [Tzer Bin \(F13-3,4\)](#)
31. [Tzer Bin \(W13-1,2\)](#)
32. [Wayne \(T15-1,2\)](#)
33. [Wei Zhe \(T14-1,2\)](#)
34. [Wen Li \(F10-1,2\)](#)
35. [Wen Li \(F11-1,2\)](#)

36. [Yan Jie \(F08-3,4\)](#).  
 37. [Yan Jie \(F14-3,4\)](#).  
 38. [Yi Xian \(F14-1,2\)](#).  
 39. [Yi Xian \(F15-1,2\)](#).  
 40. [Yiming \(T17-3,4\)](#).  
 41. [Yu Cong \(F10-1,2\)](#).  
 42. [Yu Cong \(F12-1,2\)](#).  
 43. [Zihao \(T11-1,2\)](#).

## F09-1,2 [tutor: Chen Feng]

file: chat-log-Feng1231-[1].txt

### Philip Hew [PHILIP HEW] (11 messages)

Duration: 21 minutes [.....|.||.|..|.|..|.|..|.....]

1. 09:10:08 Ok
2. 09:12:28 Dotted means required and thick line means association
3. 09:13:52 Multiplicity
4. 09:15:25 Can be 0 or 1
5. 09:18:18 Association label, direction of association
6. 09:20:54 Needs that class to run get preview method
7. 09:22:57 Association class, for details of association between the thick line
8. 09:25:52 Empty is aggregation, filled is composition, Book contains categoriesBook composed of chapters
9. 09:26:58 Navigability
10. 09:28:55 Categories are interconnected
11. 09:31:51 Public, 1-any number

**Dexter Leng Jin Hao [DEXTER LENG JIN HAO] (11 messages)**

Duration: 22 minutes [.....|.|.||.....|.|.|.|.....|.....]

1. 09:09:45 OK
2. 09:11:39 inheriting from a class vs implementing an interface
3. 09:14:18 cardinality?
4. 09:15:21 a student has one book
5. 09:16:12 a book may be borrowed to a student. a student can only borrow one book
6. 09:21:14 dependency
7. 09:22:34 auxiliary table
8. 09:24:56 composition relationship
9. 09:26:46 the parent
10. 09:28:59 category references itself
11. 09:32:13 private

**Jovan Yo Shihao [JOVAN YO SHIHAO] (11 messages)**

Duration: 22 minutes [.....|.|.||..|.|.||..|.....]

1. 09:09:20 OK
2. 09:11:44 Solid line means extending another class and dotted line to represent implementing an interface
3. 09:14:07 multiplicity
4. 09:15:27 a book can be borrowed by up to 1 student
5. 09:18:28 association labels and the triangle is the direction you should read them
6. 09:20:47 it represents this is a dependency and not an association

**Yeo Yi Wen [YEO YI WEN] (13 messages)**

Duration: 22 minutes [.....|.|.|..|.|.|..|.|..|.|.....]

1. 09:10:51 OK
2. 09:11:39 Student implements from Payee interface and also inherits from Person abstract class
3. 09:13:47 multiplicity
4. 09:15:42 A book can be borrowed by 0 to 1 students or it can have 0 to 1 borrower
5. 09:18:40 Association label, It means where to read from
6. 09:20:31 Dependency, PreviewGenerator depends on Chapter
7. 09:22:22 Association class
8. 09:25:28 Chapter class is a composition of Book Class and this is a whole-part relationship, which means that chapter cannot exist without book. Book is an aggregation of category, and this is a container-contained relationship, and book can exist without category
9. 09:26:54 Navigability
10. 09:28:52 The category is related to itself
11. 09:31:39 There is no default visibility so it is unspecified.
12. 09:31:56 Default value for multiplicity is null
13. 09:33:32 object

**Lu Yixuan, Deborah [LU YIXUAN, DEBORAH] (13 messages)**

Duration: 22 minutes [.....|...|.|.|.|.|.|.|.|.|.....]

1. 09:08:54 ok
2. 09:12:19 dotted line: dependency solid line: association
3. 09:14:08 multiplicity
4. 09:15:23 optional, can be linked to 0 or 1 objs
5. 09:18:31 shows class inheritance
6. 09:19:06 sry idk the name
7. 09:21:05 the class implements the interface
8. 09:22:29 association class
9. 09:22:46 stores info about association between student and book
10. 09:24:46 hollow: aggregation solid: composition
11. 09:26:59 navigability?
12. 09:29:10 category is associated to itself in both directions
13. 09:31:35 public, 1..\*

**Zyon Aaronel Wee Zhun Wei [ZYON AARONEL WEE ZHUN WEI] (17 messages)**

Duration: 22 minutes [.....|..|||.|.|.|.|...|.|..|.....]

1. 09:09:10 OK
2. 09:12:05 abstract and not (?)
3. 09:12:26 navigability and dependency
4. 09:13:55 0 to 1
5. 09:13:56 0 to 5
6. 09:13:57 idk
7. 09:14:08 some RDBMs stuff ahah
8. 09:16:07 every 'no. of left side' can be attached to 'no. of right side'
9. 09:18:23 directorion of smg bahaha
10. 09:20:37 abstract etc (?)
11. 09:24:07 association
12. 09:25:03 Aggregation
13. 09:25:08 Shared
14. 09:27:13 inherit?
15. 09:30:05 idk
16. 09:31:43 visibikity of load is public
17. 09:31:54 multiplicity of chapter is idk

## Ang Yong Xiang Adwin [ANG YONG XIANG ADWIN] (18 messages)

Duration: 23 minutes [.....|..|..|.|.|.|.|..|.|.|.|.....]

1. 09:08:53 OK
  2. 09:11:43 The solid line is extends, dotted line is implements
  3. 09:14:15 Eh, I forgot, I think it's the many2one and one2many relationship?
  4. 09:16:05 In that case, it ties back to the one2many and many2one relationship, so 1 student can have up to 5 books, or 1 book can have 0 student or 1 student
  5. 09:18:43 Name of the annotation association label and the triangle is point to the class the label is focusing on
  6. 09:20:45 It is a weak entity?
  7. 09:21:15 Preview generator
  8. 09:22:08 Weak entity!!
  9. 09:22:29 Association class
  10. 09:22:58 My database modelling classes have slightly different terminologies
  11. 09:25:03 Composition and aggregation
  12. 09:27:22 Which is the parent class
  13. 09:27:29 Child class\*
  14. 09:28:40 Man
  15. 09:28:53 This is a parent and child relationship
  16. 09:29:08 Category can be a parent of another category
  17. 09:29:12 And vice versa
  18. 09:31:53 Those are default visibility, and the multiplicity is unlimited
- 

## T08-3,4 [tutor: Danny]

file: chat-log-bluesky0911-[4].txt

**[LIM TECK WOON, DARREN] (0 messages -- low participation)**

**[YANG YI FEI] (0 messages -- low participation)**

## Pakhale Advay Dilip [PAKHALE ADVAY DILIP] (7 messages)

Duration: 30 minutes [.....|....|.|. ....|..|...|.....|.]

1. 08:17:55 solid line is an association, dotted line is a dependency
2. 08:22:35 multiplicity
3. 08:24:51 there are zero or one instances
4. 08:34:18 dashed line is a dependency, which is weaker than an association
5. 08:37:10 association class
6. 08:41:17 aggregation and composition
7. 08:48:09 object

## Alicia Chang [ALICIA CHANG CHUO RAN] (9 messages)

Duration: 20 minutes [.....|.|. ....|..|...|.....|.]

1. 08:35:09 not sure...
2. 08:37:23 It means the class is an action
3. 08:40:09 Replying to "It means the class is an action": to add to Justin's question, is there like steps to draw the diagram
4. 08:41:43 Replying to "It means the class is an action": composition
5. 08:42:04 Composition

6. 08:43:58 it denotes navigatability
7. 08:47:07 multiplicity and visibility is no specified
8. 08:47:19 not
9. 08:55:40 ok thank you!

**MINGYUAN LU [LU MINGYUAN] (11 messages)**

Duration: 33 minutes [ . . . . . | . . . | . . . . | . | . . . . . | . . | . . | . . . | . . | | . . . ]

1. 08:13:30 Hi, I'm not sure if I might have missed it just now, but may I ask which subsequent tutorials will be live (physical), and which will be on Zoom please? Thanks!
2. 08:17:34 Solid line is for a subclass extending a parent class; dotted line is for a class implementing an interface.
3. 08:22:56 The numbers are the multiplicities. Here 1 student can each borrow 0 to 5 books, each book can be borrowed by 0 to 1 student.
4. 08:24:58 Each book can be borrowed by between 0 and 1 student inclusive.
5. 08:31:22 The triangle indicates the direction of the action of the relationship.
6. 08:34:05 Dashed line without a triangle indicates a dependency
7. 08:37:15 Its name is association class. Its meaning in the context of OOP is to create a full class representing the action.
8. 08:41:28 The shaded diamond indicates the relationship is a composition (has a relationship), a form of strong association. The unshaded diamond indicates aggregation, a weaker relationship.
9. 08:44:00 Navigability (?)
10. 08:45:59 Categories have some relationships in between (?)
11. 08:46:46 Multiplicity=[1,infy)

**Justin Soon Jien Khye [JUSTIN SOON JIEN KHYE] (14 messages)**

Duration: 26 minutes [ ..... | ... | .. | ..... | | . | .. | | .. | | . | | ..... ]

1. 08:18:01 the normal undashed line is for inheritance
2. 08:18:48 the dotted line is for interfaces
3. 08:22:07 multiplicity
4. 08:25:02 there can be from 0 to 1 students who borrow a single book
5. 08:30:55 its a relationship between the objects
6. 08:31:08 the meaning is the direction, e.g. Student borrows book
7. 08:33:40 dependency
8. 08:36:59 association classes
9. 08:37:25 a class to model the association between two classes
10. 08:40:57 the black diamond is a contains relationship, so for example book contains chapters
11. 08:41:11 the empty diamond is a container-containee relationship
12. 08:41:31 empty is aggregation, black is composition
13. 08:43:59 arrow? not quite sure
14. 08:44:05 the direction of the association

**Low Keng Hoong, Warren [LOW KENG HOONG, WARREN] (17 messages)**

Duration: 33 minutes [.....| |...|.|.||.....|.||..|.|.|.|.].

1. 08:17:20 Dotted line -> Abstract class
2. 08:17:36 Solid line -> Concrete class
3. 08:18:37 Ah, its inheritance vs generalization
4. 08:22:06 Cardinality
5. 08:24:52 ookit can be either 0 or 1 student that borrows a b
6. 08:24:55 book\*
7. 08:27:19 association
8. 08:28:04 triangle means direction of association



9. 08:34:30 it is a dependency?
10. 08:36:44 Association class
11. 08:37:23 (Could I check if this means association class just encapsulates certain details of the association eg, borrowing the book requires date, return date etc)
12. 08:40:59 Composition and aggregation
13. 08:43:33 navigability
14. 08:44:04 can define relations within a class?
15. 08:46:52 loan is public chapter is defined by book, so 0..\* implicitly
16. 08:48:22 object diagram
17. 08:50:30 1 to 3 teams

### **Timothy Josef Ho [TIMOTHY JOSEF HO] (17 messages)**

Duration: 36 minutes [.....|...|....|. |...|...|...|. |.....|. |. |. |. |.]

1. 08:14:16 OK
2. 08:17:54 dotted line is an association, so student implements the interface payee, solid line means student is an extension of the abstract class Person
3. 08:22:38 the number is the multiplicity, like how many objects are linked to how many objects
4. 08:24:43 the number of students that can borrow a book is either zero or 1
5. 08:24:54 so you either have a borrower or you don't have one
6. 08:27:13 means no one is borrowing anything
7. 08:30:46 they are association labels to show that a student borrows a book
8. 08:34:15 the dashed line is just an association, so the preview generator depends on chapter
9. 08:34:42 but the category is an aggregation of book, it serves as a container of books
10. 08:36:59 loan class depends on the association between student and book
11. 08:41:04 empty diamond is an aggregation while solid diamond is a composition
12. 08:43:58 to show relationships between the classes
13. 08:45:30 how the attributes of the category class interact with the methods in it
14. 08:46:53 no default multiplicity
15. 08:47:07 loan attributes are private
16. 08:48:23 object
17. 08:50:25 1 to 3

### **Victor Poh Hong Rong [VICTOR POH HONG RONG] (17 messages)**

Duration: 36 minutes [.....|...|...|...|...|. |. |. |. |. |. |.]

1. 08:19:09 triangle means extend i think
2. 08:23:02 are they multiplicities?
3. 08:23:06 like 1 to many
4. 08:24:16 means a student can borrow 0-5 books?
5. 08:27:04 a student does not have to borrow a book?
6. 08:30:54 i think it represents the direction, for example, student borrows book
7. 08:34:33 temporary rely on?
8. 08:36:52 I think it's like a reference for each "borrow"
9. 08:37:13 so a student who borrows a book will always have a Loan to keep track
10. 08:41:31 the way it looks like book can exist without category
11. 08:41:45 but chapter does not exist without a book
12. 08:44:08 a category can be in a category
13. 08:45:32 like a category can have multiple subcategories
14. 08:46:59 i think private and public
15. 08:47:55 yup, understood
16. 08:50:31 3 students in 1 team
17. 08:55:43 thank you :)

### **Kim Hyeongcheol (Tutor Danny)**

- Replying to "Dotted line -> Abstract class": Abstract class indicates the person class.
- Replying to "Dashed line without a triangle indicates a depende...": Dashed line with a triangle 😊
- Replying to "not sure...": Hi Alicia 😊

- Yang Qingru [YANG QINGRU] (11 messages)**

Duration: 24 minutes [.....|...|.|..|..|..|..|..|.....]

1. 09:18:35 the difference is: dash line for implementing an interface and straight line for extends a class
2. 09:22:17 multipliers
3. 09:23:55 For every book class, it could have 0 or 1 student class associating with it
4. 09:25:46 it indicates the direction of how the label should be read. here is "student borrows book"
5. 09:28:24 here the dashed line indicates dependency. Solid line indicates association
6. 09:31:38 name: association class. Meaning: the class is associated with the association between two classes
7. 09:34:30 the empty diamond is aggregation and the other one is composition.
8. 09:35:04 the interpretations are : aggregation for container and containee relation . and composition for whole and part
9. 09:38:48 the arrowhead indicates navigability
10. 09:40:25 this one means that one category object keeps a reference of another category object?
11. 09:43:01 the visibility and multiplicity here is undefined

### **Cai Zhenze [CAI ZHENZE] (12 messages)**

Duration: 28 minutes [.....|..|...|....|...|..|.|..|...|..]

1. 09:19:16 is it because one is class and the other is interface
2. 09:22:51 is it the number of parameters that the class has
3. 09:26:07 The relationships between the classes, like single direction or bidirectional
4. 09:31:28 it is the parameter of that class that is affected
5. 09:31:55 wait no it is a new class object that is created
6. 09:35:00 A book has-a chapter so it is solid, otherwise it is empty
7. 09:38:31 has-a relationship?
8. 09:40:13 a category has a category
9. 09:40:23 it is reflective
10. 09:40:39 a category may have other sub categories
11. 09:43:47 Q1: is it not public and it is not public, it is something else Q2: A book can have 0 to infinity number of chapters
12. 09:47:36 1 to 3

### **Choong Weng Sheng [CHOONG WENG SHENG] (12 messages)**

Duration: 30 minutes [.....|..|..|....|...|..|.|..|.....]

1. 09:19:23 dashline is implementing interface?
2. 09:22:19 Multiplicity
3. 09:25:34 association label
4. 09:30:56 ok
5. 09:34:21 Whole Part -> Shaded Diamond
6. 09:34:36 Container - Containee -> Blank Diamond
7. 09:35:04 Whole part -> class on the other side of shaded diamond is part of the class where shaded diamond attach to
8. 09:35:35 Container containee -> class with a blank diamond attached to contains the class on the other side
9. 09:38:28 Navigability -> about who keep a reference to who
10. 09:40:52 Category class keeps a reference to category class. (ie: each category object can keep track of another category object)
11. 09:43:18 Just mean that it is non-important and the author just nvr specify the visibility
12. 09:50:00 hi ta can i leave earlier for my next tutorial ?

### **Ong Gin Kai Leonard [ONG GIN KAI LEONARD] (15 messages)**

Duration: 33 minutes [.....|.|..|.|..|..|.|..|....|....|.....]

1. 09:16:48 OK
2. 09:18:28 solid is inheritance, dotted is implementation
3. 09:19:22 dashed\*
4. 09:22:50 represents the multiplicity of the the class
5. 09:23:39 number of objects linked must be within 0-1
6. 09:25:36 association annotation
7. 09:25:59 2. arrowhead indicated the direction in which the label is to be read
8. 09:28:50 no significance? interchangeable with a triangle and solid line for inheritance
9. 09:29:18 DEPENDENCY
10. 09:29:19 oops
11. 09:32:00 association classes,, can be implemented as a normal class that has variables startDate and returnDate to represent association
12. 09:34:40 hollow diamond indicates aggregation, solid diamond represents composition
13. 09:38:41 navigability of association?
14. 09:43:37 loan attributes are unspecified multiplicity is unspecified
15. 09:50:31 too specific for features and too general for target users

**Park Seoyoung [PARK SEOYOUNG] (19 messages)**

Duration: 37 minutes [.....|..| |..| |..|. |.....| |..|. |.|. |..| | |]

1. 09:15:13 Hi I cannot find the team in my ms teams
2. 09:18:07 boh are inheritence, 1 is interface and the other is the abstract
3. 09:19:00 dotted line is the inheritence to the interface, and a solid line is an abstract class
4. 09:22:15 multiplicity
5. 09:23:54 Student is a borrower of a book , and the number of the borrower can be 0 ir 1
6. 09:26:24 association label tells that a student can borrow a book.
7. 09:26:43 we cannot hear you
8. 09:28:33 indirect association == dependency
9. 09:34:42 composition for the filled diamond and aggressio nfor the empty one.
10. 09:35:11 composition - the Book contains a chapter and the chapter is a part of a book
11. 09:35:46 aggression - book can have a category but book is still a book without a category
12. 09:38:25 navigability
13. 09:40:22 Category has an association (related) to anohter category, meaning both category contains each other
14. 09:42:39 1. WE DONT know the visiility 2. we dont know the multiplicity
15. 09:44:36 object
16. 09:47:22 can belong to 1 to 3
17. 09:48:50 I couldnt find the team in the ms teams
18. 09:49:04 ok
19. 09:52:15 thank you! see you next week

**Gabriel Mario Antaputra [GABRIEL MARIO ANTAPUTRA] (21 messages)**

Duration: 38 minutes [.....|...| |..| |..|. |..| |...| |.| |.....|]

1. 09:14:01 Hello, Im Gabriel, Y2 CS student, hobby is breakdance
2. 09:18:48 dashed line is for inheritance of interface
3. 09:19:20 while solid line is for classes and abstract class
4. 09:22:08 multiplicity
5. 09:22:44 indicate how many of the objects take part in the association
6. 09:23:57 there can be 0 or 1 borrower for 1 book
7. 09:26:11 means the association is borrows with the direction from student to book?
8. 09:28:44 it means dependency
9. 09:31:23 association class
10. 09:31:37 a class to further describe the association?
11. 09:34:21 filled diamond is composition, while hollow diamond is aggregation

12. 09:35:07 means that chapter is a part of the book, if the book is destroyed, so will the chapter
13. 09:35:33 category is contained in book
14. 09:35:59 oops, category is container of book
15. 09:39:03 i have no idea
16. 09:40:14 it has a reference of an object of its own class
17. 09:40:48 e.g. a Person class may have an attribute parent which is also a Person class
18. 09:42:54 not clear, no way to know
19. 09:43:03 there is no default visibility or multiplicity
20. 09:49:46 The target user is too general?
21. 09:52:12 Thank you!

### Kim Hyeongcheol (Tutor Danny)

- Leonard?
  - Replying to "boh are inheritance, 1 is interface and the other ...": One is implementation 😊 the other is inheritance. Which one is implementation, and which one is inheritance?
- 

## W09-3,4 [tutor: Danny]

file: chat-log-bluesky0911-[1].txt

### [RAEEDA IBNAT HOSSAIN] (0 messages -- low participation)

### Chu Tuan Phong [CHU TUAN PHONG] (6 messages)

Duration: 21 minutes [ ..... | ..... | ... | . | .. | ... ]

1. 09:30:25 because it indicates dependency
2. 09:37:23 composition and aggregation
3. 09:41:09 navigability
4. 09:43:33 bi-directional navigability, meaning that 2 classes know each other.
5. 09:46:12 visibility: private multiplicity: 1...\*
6. 09:51:46 1-3

### Deng Tianle [DENG TIANLE] (9 messages)

Duration: 45 minutes [ | ..... | ... | .... | .... | . | .... | .... | .. | ... ]

1. 09:00:41 yes
2. 09:17:43 Dashed line: Student implements interface Payee; solid line is Student inherits from Person
3. 09:21:06 multiplicity
4. 09:26:32 Association label. E.g. "borrows >" means the association is student borrows book(s)
5. 09:31:26 PreviewGenerator depends on Chapter but there may not be navigability?
6. 09:33:43 Loan is an association class which gives more details about the association between Student and Book
7. 09:38:25 The solid diamond indicates composition which means that e.g. Chapter is part of a Book. The other diamond indicates aggregation which means e.g. book is contained in category
8. 09:43:12 Bidirectional navigability
9. 09:46:23 Maybe the visibilities for them is undecided yet?

### Hrishikesh Sathyian [HRISHIKESH SATHYIAN] (10 messages)

Duration: 37 minutes [ ..... | ..... | .... | | ... | ... | ..... | . | | ... ]

1. 09:14:07 OK

2. 09:20:59 multiplicity
3. 09:25:57 Navigability
4. 09:26:29 The triangle is an association lable
5. 09:30:32 Solid line already captures dependency via association
6. 09:34:07 Association class because it stores information about the borrows
7. 09:44:20 Self-associability ?
8. 09:46:23 Unknown multiplicity
9. 09:47:39 object
10. 09:51:22 1-3

## **Liu Lekang [LIU LEKANG] (12 messages)**

Duration: 35 minutes [..... | |... |... | |... |.. |... |... |.. |. |...]

1. 09:16:28 OK
2. 09:17:39 dashed line means implementation while the solid one means inheritance
3. 09:21:21 multiplicity constraints
4. 09:25:24 association label
5. 09:26:23 triangle indicates direction of association
6. 09:30:39 previeGenerator depends on chapter
7. 09:33:33 loadn is an association class
8. 09:37:33 composition and aggregation. One is whole-part, one is container-containee
9. 09:41:28 directed association
10. 09:44:57 if a category object is related to another category object each of them will have a reference to the other
11. 09:46:28 package private any number
12. 09:51:45 1..3

## **Lee Isaac [LEE ISAAC] (13 messages)**

Duration: 32 minutes [..... | |... |..... | |.. | |. |.... |...]

1. 09:21:26 valid values
2. 09:22:57 the numbers represent the multiplicity of the association
3. 09:26:31 the triangle shows the direction of association
4. 09:34:15 it shows the relationship between student and book
5. 09:35:01 its name is association class
6. 09:38:45 composition
7. 09:39:24 aggregation and composition
8. 09:41:47 navigability
9. 09:46:36 chapter's multiplicity: any non-negative integer
10. 09:46:50 visibility of loan attributes: private
11. 09:51:07 it's an objet diagram, it shows association between objects
12. 09:51:52 a student can belong to 1 to 3 teams, a team can have 3 to 5 students
13. 09:53:39 the audience scope is too large

## **Soon Weng Foon Timothy [SOON WENG FOON TIMOTHY] (14 messages)**

Duration: 37 minutes [..... | |... |.... |... |.. |.... |. | |... |. | |.]

1. 09:16:23 OK
2. 09:17:48 Student implements interface Payee but extends the Person class
3. 09:21:03 Multiplicity
4. 09:26:19 It is an association label. The triangle shows the direction the label is meant to be read
5. 09:30:59 the dashed line indicates that PreviewGenerator has a dependency on Chapter instead of navigability to Chapter

6. 09:33:58 this is an association class, which means that the class stores additional information about the association between to other classes
7. 09:38:29 Solid diamond - Composition Hollow diamond - Aggregation Composition implies that object is a part of the other object Aggregation implies that object is contained in the other object
8. 09:40:56 Navigability
9. 09:41:35 Replying to "Navigability": thank you
10. 09:45:04 A Category will contain a reference to another Category object, which will have a reference to it
11. 09:47:06 unknown
12. 09:48:02 object
13. 09:51:45 1-3 teams
14. 09:53:36 The target user is too general

## Sun Ze Dong [SUN ZE DONG] (16 messages)

Duration: 36 minutes [.....|. |...|....| |..|..|...|...|..|. |...]

1. 09:15:01 OK
2. 09:17:17 Solid lines are associations and dashed lines are dependencies
3. 09:21:22 Multiplicity constraints
4. 09:21:54 multiplicity
5. 09:26:29 Inheritance? I'm not sure
6. 09:27:15 Association label
7. 09:30:44 Preview generator depends on chapter because u need the chapter to generate a preview
8. 09:33:09 Association class
9. 09:33:47 The loan is related to both the student and the book rather than specifically owned by either student or book
10. 09:37:03 Solid diamond -> composition Hollow diamond -> aggregation
11. 09:41:28 Navigability of an association
12. 09:41:41 Bidirectional and unidirectional navigability
13. 09:44:07 Both methods have a reference to each other
14. 09:46:11 Visibility is unspecified
15. 09:46:29 Multiplicity is 1
16. 09:51:14 Up to 5

## Huang Qiming [HUANG QIMING] (21 messages)

Duration: 36 minutes [.....|...| |..| |...| |..|...|.....|. |...]

1. 09:17:07 extends vs implements
2. 09:17:23 extends a class vs implements an interface
3. 09:21:12 the possible number
4. 09:21:51 the number of linked objects must be within 0 to 5 inclusive
5. 09:22:18 oh oh
6. 09:22:22 it is asking for the name
7. 09:22:25 it is multiplicity
8. 09:25:21 association?
9. 09:26:44 direction of the relationship?
10. 09:30:01 it is dependency. chapter keeps no reference of the preview generator
11. 09:30:44 oh i said it in the reverse way
12. 09:31:30 :D
13. 09:33:03 association class
14. 09:33:38 it stores the information of borrow relationship
15. 09:37:33 the black one is composition. book consists of chapters. the hollow one is aggregation
16. 09:44:12 each category is related to another category?
17. 09:46:53 public?
18. 09:47:23 okay okay

19. 09:51:38 1 to 3?
20. 09:52:06 at least 3 max 5
21. 09:53:41 a bit too wide?

## **Xu Zhehao [XU ZHEHAO] (21 messages)**

Duration: 52 minutes [ | ..... | |...|. |...|...| | | |...| |...|. |...|. | | | |.]

1. 09:00:41 yes
2. 09:16:24 OK
3. 09:17:56 dependancy
4. 09:21:30 Mulpliticities
5. 09:23:01 Sorry, where is the reference list for UML?
6. 09:27:18 Association label
7. 09:27:32 directions
8. 09:31:29 Temporary inference
9. 09:32:21 Dependancy
10. 09:33:51 Association class
11. 09:34:34 Store the association between the two classes
12. 09:37:30 composition
13. 09:38:09 A Book is composed of Chapter objects.
14. 09:41:07 Navigability
15. 09:44:47 A class can have a reference to itself
16. 09:46:49 public
17. 09:47:02 unknown
18. 09:48:11 object
19. 09:51:18 1-3
20. 09:52:04 3-5 students
21. 09:53:32 Not for type oriented, too much GUI

## **Kim Hyeongcheol (Tutor Danny)**

- Replying to "extends vs implements": Think about it in another way 😊
  - Replying to "extends vs implements": oh,
  - Replying to "extends vs implements": Sorry typo for another student you are right
  - Replying to "association?": Association... and ? (something more)
  - Replying to "Navigability": Rishi, please check UML reference sheet more~
  - Replying to "Navigability": Your answer is really nice
  - Replying to "directed association": Please check the answer I am going to show you soon 😊
  - Replying to "Navigability": 👍
- 

## **W12-1,2 [tutor: Danny]**

file: chat-log-bluesky0911-[2].txt

## **Lee Yen Shen [LEE YEN SHEN] (3 messages -- low participation)**

Duration: 19 minutes [ ..... |...| ..... | ..... ]

1. 12:20:12 The dotted line is implementing an interface, the solid line is inheritance?
2. 12:24:03 multiplicity
3. 12:39:35 White is aggregation, black is composition

## **Lee Miao En Emelyn [LEE MIAO EN EMELYN] (9 messages)**



Duration: 25 minutes [.....|....|.|.|.|.|.|.|.|.]

1. 12:20:52 One is inheritance the other is implementation of interface
2. 12:25:25 association
3. 12:27:41 number of associations?
4. 12:29:36 inheritance
5. 12:33:06 its a dependency that has not already been captured
6. 12:36:28 association link --> association class
7. 12:39:35 solid diamond --> composition, hollow diamond --> aggregation
8. 12:44:21 category refers to itself
9. 12:46:45 public

**Tan Yi Han [TAN YI HAN] (9 messages)**

Duration: 30 minutes [.....|...|...| |.....|..|.....|...]

1. 12:20:05 Do we pm you?
2. 12:24:18 Does the numbers represent the range of values?
3. 12:28:10 1 student can borrow up to 5 books?
4. 12:28:57 Umm sorry why is the books 0..5?
5. 12:29:33 Student borrows book not the other way around?
6. 12:36:34 Is that the object being send between the student and book class?
7. 12:39:31 Composition vs aggregation. But they are not really clear on the difference
8. 12:46:55 Private
9. 12:50:34 1 to 3

## Joshua Tan Yu Jie [JOSHUA TAN YU JIE] (10 messages)

Duration: 24 minutes [ ..... | .. | .. | .. | . | ... | .. | | . | .. | ..... ]

1. 12:18:44 ok
2. 12:21:07 Isa hasa?
3. 12:24:07 multiplicity
4. 12:27:08 One book can only be borrowed by one student
5. 12:29:31 Association label
6. 12:33:37 Dependency not navigability
7. 12:36:26 Association class
8. 12:37:01 This class contains info of the association of the other two classes
9. 12:39:57 Composition and aggregation
10. 12:42:50 navigability

**Lae Zong Hon Justyn [LAE ZONG HON JUSTYN] (13 messages)**

Duration: 27 minutes [.....|.|...|.||..|..|....|.||.|.|....]

1. 12:18:59 OK
2. 12:20:10 one references an interface while the other references to an abstract class.
3. 12:24:20 class number
4. 12:26:49 each borrower can only be one student or no student (0 or 1 students can be the borrower)
5. 12:29:11 composition
6. 12:29:34 association
7. 12:32:43 it is a dependency, not an association
8. 12:37:02 dependency from an association
9. 12:39:27 white diamond = aggregation. black diamond = composition
10. 12:40:07 a composition is stronger than an aggregation which is stronger than a simple association
11. 12:42:47 connection
12. 12:44:32 two-way relationship

13. 12:46:21 private by default. multiplicity = 1 by default

### **Bek Ming Huan [BEK MING HUAN] (14 messages)**

Duration: 35 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.|.].

1. 12:18:57 OK
2. 12:20:34 Dotted line for interface implementation, straight line for inheritance of abstract class
3. 12:24:28 A book can be borrowed by up to 1 student, while a student can borrow up to 5 books
4. 12:27:00 Each student can either be a borrower or not a borrower
5. 12:30:38 Association labels (from slide)
6. 12:33:33 Dashed line is for dependency
7. 12:37:31 association class
8. 12:40:26 Black diamond is for aggregation composition (exclusive ownership of one object by another), white diamond is for aggregation (nonexclusive ownership of one object by another)
9. 12:42:53 Navigability
10. 12:44:26 Category is related to itself
11. 12:46:18 Unspecified
12. 12:47:01 Unknown multiplicity
13. 12:53:05 Anyone is too general
14. 12:54:01 Pressed wrongly

### **Namit Deb [NAMIT DEB] (14 messages)**

Duration: 46 minutes [.|.||.....|.|.|.|.|.|.|.|.|.|.|.|.|.|.].

1. 12:01:11 yes
2. 12:03:10 Hi! I'm not in the Teams yet but I've just sent a request to join the team
3. 12:04:16 Replying to "Hi! I'm not in the Teams yet but I've just sen...": thanks
4. 12:19:59 Inherits vs implements
5. 12:23:54 multiplicity
6. 12:27:00 Student can have 0 (null) or 1 Books
7. 12:29:26 Association label is the meaning of association
8. 12:32:57 dependency
9. 12:36:16 Association classes
10. 12:39:33 Aggregation and composition
11. 12:42:35 navigability
12. 12:44:39 Category related to itself
13. 12:46:38 Loan attributes are public, chapter doesnt have multiplicity
14. 12:47:33 Object diagram

### **Foo Sek Woon Nicholas [FOO SEK WOON NICHOLAS] (14 messages)**

Duration: 33 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.|.].

1. 12:21:11 dotted is implement, solid is subclass?
2. 12:24:45 instance range?
3. 12:27:24 borrower attribute can be null or hold reference to 1 book?
4. 12:29:46 triangle points to parent class
5. 12:30:05 association label
6. 12:31:01 oops wrong triangle 🤔
7. 12:34:08 its dependent on chapter?
8. 12:36:27 association class, stores information about the borrowing relation between student and book
9. 12:36:41 borrows\* association\*
10. 12:39:55 solid diamond - book obj is composed of chapter objects
11. 12:40:24 hollow diamond - category is aggregation of books
12. 12:42:57 navigability

13. 12:44:48 category can be related to other categories
14. 12:55:08 thank you

### **Ong Qi An [ONG QI AN] (15 messages)**

Duration: 53 minutes [ . | ..... | .... | .. | . | .. | ... | .. | | . | . | . | ... ]

1. 12:01:08 yes
2. 12:19:46 Inherit from class vs implements interface
3. 12:24:24 multiplicity
4. 12:27:28 Student can borrow 0-5 books, each book can be borrowed by either 1 or 0 students
5. 12:29:27 Association labels
6. 12:32:52 Dependent on
7. 12:36:14 Preview Generator class cannot compile without chapter but if the line is solid/association, does that also mean Preview Generator class cannot compile without chapter class?
8. 12:36:25 Association class
9. 12:39:38 composition
10. 12:40:02 Book is composed of chapter objects
11. 12:42:47 navigability
12. 12:44:34 Bidirectional navigability, different category objects have reference to each other
13. 12:46:50 Not sure
14. 12:50:31 1 to 3
15. 12:54:20 Replying to "Preview Generator class cannot compile without cha...": Understand thanks!

### **Lim Huan Kiat [LIM HUAN KIAT] (18 messages)**

Duration: 45 minutes [ ..... | | .... | ... | ... | | . | . | ... | ... | .. | .. | . | . | ... ]

1. 12:09:42 hello my audio is not working rn im tryingto fixx it
2. 12:09:55 I am cs 2nd year and I love gaming w yen shen
3. 12:10:08 HELLo
4. 12:10:10 HELLO
5. 12:10:21 hi
6. 12:15:04 hi can yall see my message
7. 12:19:57 the solid line shows inheritance and the dashed line signifies implementation
8. 12:23:45 quantifiers
9. 12:24:22 owait its mulitplicity
10. 12:26:34 a book can be borrowed by either 0 or 1 student
11. 12:28:58 association label
12. 12:32:35 it is a dependency instead of an association since the interaction between previewgenerator and chapter is transient
13. 12:36:27 its an association class that contains information about the association
14. 12:39:54 hollow is aggregation and filled is association so categories contain different books and a book consist of chapters
15. 12:42:30 navigability
16. 12:44:26 a category can have another sub category?
17. 12:46:30 not specified, multiplicity also not specified
18. 12:55:11 thank you!

### **Kim Hyeongcheol (Tutor Danny)**

- Replying to "Hi! I'm not in the Teams yet but I've just sen...": Yea, you are in
- Replying to "Hi! I'm not in the Teams yet but I've just sen...": now
- Lim huan kiatt
- Can you introduce yourself to us?
- Replying to "quantifiers": You may need to check you answer later when I show you correct one 😊

- Replying to "Does the numbers represent the range of values?": You may need to check you answer later when I show you correct one 😊
- Replying to "class number": You may need to check you answer later when I show you correct one 😊
- Replying to "A book can be borrowed by up to 1 student, while a...": What is its name?
- Replying to "instance range?": You may need to check you answer later when I show you correct one 😊
- Replying to "Dependent on": Correct, but you should know the exact name of annotations
- Replying to "Preview Generator class cannot compile without cha...": If there is an association presented by solid line between preview generator and chapter class, the dependancy can be captured by the association, solid line 😊 this is the answer for your question.

## W13-3,4 [tutor: Danny]

file: chat-log-bluesky0911-[3].txt

**[LIM TAO LIANG, KIRAN] (0 messages -- low participation)**

**Anoob Hakim Nael [ANOOB HAKIM NAEL] (5 messages -- low participation)**

Duration: 7 minutes [..... | | ..... | .....]

1. 13:18:17 ok clear 👍
2. 13:19:05 interface vs inheritance?
3. 13:19:37 yes I do
4. 13:20:03 no I meant I didn't bring earphones lol
5. 13:25:29 Excuse me for a second, I need to go to the washroom

**Bajpai Arnav [BAJPAI ARNAV] (7 messages)**

Duration: 22 minutes [..... | .. | .. | ..... | ..... | .....]

1. 13:20:13 The dashed line represents dependency, it is a weaker association than solid line
2. 13:23:30 multiplicity
3. 13:24:53 Student can borrow 0 or 1 loan
4. 13:27:44 association
5. 13:36:18 Composition and aggregation
6. 13:36:56 Composition indicates child class cannot exist without parent class
7. 13:42:50 self association

**Hu Tongyan [HU TONGYAN] (10 messages)**

Duration: 24 minutes [..... | .. | .. | .... | . | .. | .... | .. | . | .....]

1. 13:20:28 One represents inheritance, one represents dependency
2. 13:23:28 Number of instances
3. 13:26:05 Multiplicities indicate constraints
4. 13:27:57 Triangles indicates relationship.
5. 13:31:10 Dashed line may not be implemented.
6. 13:33:55 association class
7. 13:36:58 composition
8. 13:40:20 Directed Association
9. 13:43:01 Indicates a one-way association between the two
10. 13:45:14 N/A

**Ngooi Jun Sen [NGOOI JUN SEN] (11 messages)**

Duration: 24 minutes [.....|..|.||...|.||.|...|.|.|. ....]

1. 13:20:14 dashed has dependencies
2. 13:23:03 multiplicity of association
3. 13:25:13 0 or 1 students
4. 13:26:51 association label
5. 13:30:44 chapter is dependent on PreviewGenerator
6. 13:33:28 association class
7. 13:34:11 stores information of the borrows association between Student and Book
8. 13:36:42 hollow one is aggregation, solid one is composition
9. 13:40:25 association?
10. 13:42:19 can access one category from another
11. 13:44:56 visibility is not important?

**Nguyen Nhat Minh [NGUYEN NHAT MINH] (14 messages)**

Duration: 26 minutes [.....|..|.|.|.|.|.|.|.|.|.|.|.|.].

1. 13:19:11 Student -> Person : Inheritance Student -> Payee : Interface implementation
2. 13:22:48 Multiplicity of an association
3. 13:24:51 0 or 1 Students can be borrower of a Book
4. 13:26:51 The direction of the association
5. 13:28:55 Replying to "The direction of the association": OH you mean the entire label not the triangle
6. 13:30:40 The line represents a code dependency
7. 13:33:31 Loan is an association class and provides additional information on an association
8. 13:36:55 Blank diamond: Aggregation - "contains" relationship
9. 13:40:23 Directionality
10. 13:40:35 uh
11. 13:40:37 I forgot
12. 13:42:43 A Category holds references to other Categories in the association
13. 13:44:57 Private and \* ?
14. 13:45:53 object

**Duong Minh Duc [DUONG MINH DUC] (14 messages)**

Duration: 34 minutes [.....| |...|.|.|.|.|.|.|.|.|.].

1. 13:18:21 Yes
2. 13:19:32 Dashed line is Student implements Payee interface. Solid line is student extends Person class.
3. 13:23:26 Multiplicity
4. 13:25:08 Sorry can you pm me the question again?
5. 13:25:48 Each book can only be loaned by 1 student, or not loaned
6. 13:27:45 The triangle tells the meaning of the relationship: student borrows book
7. 13:30:24 Implies dependency but not necessarily composition or aggregation
8. 13:30:57 PreviewGenerator may have a method that takes in/returns a Chapter but not have a Chapter field inside it.
9. 13:33:46 Association class. Represents extra information about an association (here is a Loan has a student and a book, but also the dates)
10. 13:36:39 Solid diamond is composition. Hollow diamond is aggregation.
11. 13:40:55 Navigability
12. 13:43:00 A class references itself?
13. 13:44:46 Visibility of Loan attributes are undefined. Multiplicity of Chapter is also undefined. Depends on the programmer.
14. 13:52:59 Thank you!

## Kevin Limantoro [KEVIN LIMANTORO] (15 messages)

Duration: 24 minutes [.....|...|.|.|||.|||...|.|.|.....]

1. 13:19:34 Solid = direct connection
2. 13:19:48 Dashed = indirect connection
3. 13:23:18 multiplicity
4. 13:25:11 Cardinality association
5. 13:25:43 indicates how many instances of one class can be associated with another class
6. 13:27:06 label
7. 13:30:36 Association
8. 13:31:09 dependency
9. 13:33:28 Attribute?
10. 13:36:09 Aggregation and composition
11. 13:36:25 Aggregation = part of relationship
12. 13:36:46 Composition = cannot live by itself
13. 13:40:16 association
14. 13:42:48 Class association
15. 13:44:26 Private attributes

**Priyadarshi Charvi [PRIYADARSHI CHARVI] (20 messages)**

Duration: 34 minutes [.....|..|.|||. ..|. ..|. ..|. ..|. .|.....]

1. 13:19:00 The dotted line represents inheritance from an interface and the solid line represents inheritance from a class
2. 13:19:28 So Student implements Payee and Student extends Person
3. 13:22:41 multiplicity
4. 13:24:57 1 student can borrow upto 5 books
5. 13:25:32 It's an optional association, so either one student is involved or no student is involved
6. 13:26:51 Association label
7. 13:27:19 Arrow indicates the direction in which the association is to be read
8. 13:27:55 So student borrows book
9. 13:30:25 This is a case of dependency
10. 13:30:40 PreviewGenerator accesses information from Chapter but there is no association between them
11. 13:33:10 Association class
12. 13:33:31 It stores information about the association between student and book
13. 13:33:56 Replying to "Association class": Thank you!
14. 13:36:22 The solid diamond represents composition, the empty diamond represents aggregation
15. 13:36:44 Composition is when a class is composed of other classes, here book is composed of chapters
16. 13:39:38 Navigability
17. 13:42:53 It references itself? Not really sure...
18. 13:44:24 If visibility is not specified, that means it is not important for the purpose of the diagram or maybe it is not decided yet
19. 13:44:49 Multiplicity is unspecified for Chapter
20. 13:53:00 Thank you!!

**Kim Hyeongcheol (Tutor Danny)**

- Hakim, you have your laptop?
- Replying to "yes I do": Haha, I understood you didn't bring yours
- Replying to "yes I do": Anyway this is good.
- Replying to "no I meant I didn't bring earphones lol": Ah, I see.
- Replying to "Sorry can you pm me the question again?": How can we interpret the multiplicity on student class?
- Replying to "The direction of the association": You can try to detail this more? 😊

- Replying to "Association class": It seems you prepared this session quite well 😊 correct

## T13-1,2 [tutor: Dillon]

file: chat-log-dillontkh-[1].txt

**Charlene Lau Xin Ru [CHARLENE LAU XIN RU] (11 messages)**

Duration: 29 minutes [.....| |..|||...|.|.|.|.|.|.|.|.].

1. 13:10:21 ok
2. 13:11:38 one is implements, one is child class
3. 13:14:39 multiplicity
4. 13:15:12 a book can be borrowed by at most 1 student
5. 13:16:44 association the direction to be read
6. 13:20:15 to represent weak relationship
7. 13:22:07 association class
8. 13:24:42 association solid one is composition, the other is aggregations
9. 13:27:44 category is self associated
10. 13:30:03 unspecified visibility?
11. 13:40:20 thank you!

**Ng Zhan Wen [NG ZHAN WEN] (13 messages)**

**Duration:** 19 minutes [ ..... | | .. | |||. .|..|.|||. ..|. .... ]

1. 13:10:28 OK
2. 13:11:59 Student implement the interface which is the dotted line and inherit the abstract calss
3. 13:14:31 multiplicities
4. 13:15:27 The student borrowing the book can be either 1 or 0
5. 13:16:48 The association names
6. 13:17:09 Solid triangle means it is a sub class of the other
7. 13:19:51 Weak dependency? Use to interact with chapter
8. 13:22:33 Indicated loan is an association class
9. 13:24:20 Solid diamond represent composition while clear diamond represent aggregation
10. 13:25:05 Interpretation is the difference in the relationship, for composition it is a whole part rs, aggregation is container containee
11. 13:26:00 navigability of an association.
12. 13:27:58 Show that there is a association to itself
13. 13:30:00 1) visibility is unspecified 2) multiplicity is unspecified.

**Desean Soh [DESEAN SOH] (14 messages)**

Duration: 30 minutes [.....|.|.|.|..|..|.|.|.|.|.....|.....]

1. 13:10:14 done :D
2. 13:11:42 The bolded line shows an inheritance relation while the dotted line shows an interface implementation relation
3. 13:13:53 Multiplicity
4. 13:15:08 A book can be borrowed by 0 or 1 student
5. 13:16:48 Association label, Triangle means in which way the associated in directed
6. 13:19:20 There is no direct association between PreviewGenerator and Chapter, but there exists a dependency where getPreview uses a Chapter object as its parameter
7. 13:22:16 Association class: Used to represent an association between objects

- Wong An Wei [WONG AN WEI] (15 messages)**

1. 13:08:04 I will try joining with my phone :(
2. 13:11:03 Ok
3. 13:11:44 Association and dependency
4. 13:13:57 Multiplicities
5. 13:15:15 Can either have 0 or 1
6. 13:16:45 It is the direction u read it from, left to right or right to left
7. 13:19:51 It inherits from chapter?
8. 13:20:28 Dependency\*\*
9. 13:21:57 Association class
10. 13:24:14 Composition, the class cannot exist without the other
11. 13:24:31 Chapter class cannot exist without a book class
12. 13:26:25 Navigatability
13. 13:27:44 The attribute is being used in the function?
14. 13:30:03 No specified multiplicity
15. 13:40:10 Bye!

1. 13:10:56 ok
2. 13:12:25 one is implementation, the other is inheritance
3. 13:14:15 multiplicity
4. 13:15:40 a book can be borrowed to either 0 or one student
5. 13:16:23 association label
6. 13:16:33 The triangle indicates the direction
7. 13:20:27 previewgenerator is dependent on chapter?
8. 13:22:02 association
9. 13:22:26 the relationship requires these info
10. 13:22:49 \*association not relationship
11. 13:23:48 composition
12. 13:24:33 and aggregation
13. 13:26:09 navigability
14. 13:27:45 a category can associate with another related category
15. 13:29:32 we dont know both

1. 13:02:46 wait can you hear me
2. 13:02:57 🦴
3. 13:10:23 ok



4. 13:11:45 the dotted line is inherit interface, then the solid line is extends the abstract class
5. 13:13:49 multiplicity
6. 13:15:24 how many objects can be associated to this object
7. 13:16:47 label ?
8. 13:17:00 describe association
9. 13:19:30 previewGenerator depends on chapter
10. 13:22:16 It's an association class.
11. 13:22:37 stores information of the association between 2 classes ?
12. 13:24:19 composition for the full diamond aggregation for the empty diamond
13. 13:24:53 composition is a "Whole-part" aggregation is "container-container"
14. 13:26:19 navigability
15. 13:27:41 a category can be navigated from another category
16. 13:29:36 visibility is not specified and the multiplicity is not specified

### **David Ivan Quirimit Vicedo [DAVID IVAN QUIRIMIT VICEDO] (16 messages)**

Duration: 27 minutes [..|...|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.....]

1. 13:02:49 nope
2. 13:06:52 his Bluetooth earpiece not connecting to his phone
3. 13:06:57 lol
4. 13:08:39 is it okay if I go off at like 1.40 because I need to head over to science for lecture at 2
5. 13:09:11 o dam
6. 13:10:08 OK
7. 13:12:13 there is no association between student and payee (dependency), but there is one between person and student
8. 13:13:58 Multiplicity
9. 13:15:43 a book can not or belong to one student but a student can have up to 5 books
10. 13:16:52 association label student borrows book
11. 13:19:28 previewGenerator has a dependency on Chapter, but it does not have any association with Chapter
12. 13:22:40 association class associated with both student and book
13. 13:24:15 solid: composition book is composed of Chapter objects hollow: aggregation category contains books
14. 13:26:36 navigability
15. 13:27:56 attribute of category is related to a method?
16. 13:30:02 unspecified/not important to purpose of diagram unspecified multiplicity

### **Shayne Leong Yu Xiang [SHAYNE LEONG YU XIANG] (18 messages)**

Duration: 27 minutes [.|.....|.|.|.|.|.|.|.|.|.|.|.|.|.....]

1. 13:01:49 Hi sorry I'm trying to find a spot to sit down then I can turn on my camera :"
2. 13:10:36 Ok
3. 13:11:35 Dotted line is implement but straight line is inherit
4. 13:14:36 Multiplicity
5. 13:15:17 A book can have 0 or 1 borrower
6. 13:16:37 Association?
7. 13:17:09 Triangle points to the direction of logic flow
8. 13:17:22 So student borrows book
9. 13:19:22 It is a dependency
10. 13:21:57 Association class named loan
11. 13:22:48 Represents the loaning of a book to the student n stores the info
12. 13:24:06 Empty diamond is aggregation, black diamond is composition
13. 13:24:25 Category is the container, book is the containee
14. 13:24:44 Book is the object n is made out of chapters
15. 13:24:51 And\*

16. 13:26:19 Navigability  
17. 13:27:36 A category can be related to another category  
18. 13:29:36 Private

**Eugene Christopher [EUGENE CHRISTOPHER] (21 messages)**

Duration: 38 minutes [..|.....|..| |||||.|.|||.|.|.....|.....]

1. 13:02:13 I'm finding a spot to sit too
2. 13:10:35 donee
3. 13:11:52 the dotted line
4. 13:14:31 multiplicities
5. 13:15:18 zero or one instance
6. 13:16:41 labvel
7. 13:16:44 label
8. 13:17:15 means student class is related to book class
9. 13:18:02 borrower
10. 13:18:42 must it be bolded the words
11. 13:19:51 means dependency
12. 13:20:02 previewGenerator depends on chapter
13. 13:22:22 composition
14. 13:22:39 book is strongly owned by loan
15. 13:24:24 book is composed to chapters
16. 13:24:57 empty diamond is aggregation
17. 13:25:07 solid diamond is composition
18. 13:26:15 uml notation
19. 13:27:49 the attribute in category can navigate to the methods in category and they are related
20. 13:29:56 one
21. 13:40:25 thank you

**Boon Kai Ming [BOON KAI MING] (23 messages)**

Duration: 43 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.....]

1. 12:56:25 i'm in canteen it's noisy
2. 13:10:32 👍
3. 13:10:38 ok
4. 13:11:38 inheritance? n association
5. 13:12:29 dependencies
6. 13:14:13 multiplicity
7. 13:15:21 0 to 1 inclusive number of linked objects
8. 13:15:42 optional\*
9. 13:16:41 association class
10. 13:16:53 association between student n book
11. 13:16:55 etc
12. 13:17:57 student borrows book
13. 13:19:27 dependencies instead of association
14. 13:22:12 association class
15. 13:22:26 Student borrows Book
16. 13:22:38 stores this information^
17. 13:23:41 Composition
18. 13:23:58 A book is composed of chapter objects
19. 13:26:19 associations?
20. 13:27:43 bidirectional navigability
21. 13:29:48 unspecified
22. 13:31:19 ah can i move to another place
23. 13:39:56 thank you

## Tan Kah Ho Dillon (Tutor Dillon)

- hopefully we can end before that but i don't have the authority to give you that permission 🤖

### F10-3,4 [tutor: Eric]

file: chat-log-eric-vader-[1].txt

**[LOW WEIMIN, IAN] (0 messages -- low participation)**

**Bryon Kaan Yeung Dong [BRYON KAAAN YEUNG DONG] (11 messages)**

Duration: 20 minutes [.....|.|.|.|||.|.|.|.|.|.|.....]

1. 10:11:51 OK
2. 10:13:51 implements\* and extend
3. 10:16:17 multiplicity
4. 10:18:01 0 to 1 students borrow 0 to 5 books
5. 10:19:25 association label
6. 10:20:53 it is a dependency?
7. 10:23:03 association class, information about the association between student and book
8. 10:25:21 aggregation between book and category and composition between book and chapter, chapters compose a book
9. 10:27:32 navigability
10. 10:29:41 category can relate to another category
11. 10:32:33 package private? any?

**Roy Tan Hao Qian [ROY TAN HAO QIAN] (12 messages)**

Duration: 31 minutes [ . | ..... | .. | . | | . | | .. | . | . | . | .. | ..... ]

1. 10:01:41 Prof, my computer no webcam. And my laptop is not with me currently
2. 10:11:50 OK
3. 10:14:04 the dotted one is student inherits payee, then solid is student extends person
4. 10:16:25 uh, not sure. Multiplicity?
5. 10:17:50 student can have 0 or 1 book object
6. 10:19:26 the association label
7. 10:20:59 it's a dependency
8. 10:23:05 this is an association class. I think it links the student borrowing the book
9. 10:25:08 unfilled diamond is aggregation, filled is composition. aggregation is like a collection of books under 1 category, and composition is like a book has of chapters
10. 10:27:18 navigability
11. 10:29:42 i think one category can link to the next, and previous, kind of like a double linked list?
12. 10:32:59 i think is either package-private or protected? multiplicity of chapter is more than 1?

**Kwan Li Hao [KWAN LI HAO] (12 messages)**

**Duration:** 19 minutes [.....| |..|.||.| ||.| .|.|. ..| .....]

1. 10:12:21 OK
2. 10:13:42 inheritance and interface
3. 10:16:18 no idea
4. 10:18:06 zero to one borrowers?
5. 10:19:25 association label
6. 10:21:21 No direct implementation

7. 10:22:40 association class
8. 10:23:06 Loan is associated with Student borrowing Book
9. 10:25:25 Solid -> Composition Not solid -> Aggregation Book has a chapter Category contains books
10. 10:27:42 No idea
11. 10:29:25 Categories are interaccessible
12. 10:32:17 Public 0 to infinity

### **David Chong [DAVID CHONG JOON WEI] (13 messages)**

Duration: 19 minutes [.....|..|.|||.|.|.|.|.|.|.|.....]

1. 10:12:32 .
2. 10:13:51 dotted lines are implementing interface, solid lines are inheritance
3. 10:16:17 multiplicity
4. 10:18:22 student can contain 0 to 5 books, book can only be borrowed by 1 student
5. 10:18:27 0 to 1 \*
6. 10:19:19 label
7. 10:21:14 not direct association
8. 10:23:01 association class, handle the loan context between student and book
9. 10:25:11 filled diamond - composition association open diamond - aggregation
10. 10:25:37 chapter cant exist without book, book can exist independently of category
11. 10:27:55 association?
12. 10:29:30 category can be related to other category
13. 10:31:57 visibility and multiplicity not specified

### **Kor Kin Peng Jeron [KOR KIN PENG JERON] (13 messages)**

Duration: 19 minutes [.....|..|.|||.|.|.|.|.|.|.|.....]

1. 10:13:52 One is implementing an interface while another is extending
2. 10:16:40 Multiplicities in UML
3. 10:18:11 Number of instances of the class that is created
4. 10:18:45 Student can borrow 1 book, book can be borrowed by 5 students
5. 10:19:45 Association label
6. 10:21:36 PreviewGenerator depends Chapter
7. 10:23:22 Lion class depends on book but it does not store a direct reference to it
8. 10:23:32 loan\*
9. 10:25:27 Composition association, where book has an instance of chapter
10. 10:28:00 Association?
11. 10:30:16 Book belongs to one category but category can have multiple books
12. 10:32:52 Startdate and returnDate are public
13. 10:33:15 Book can have multiple chapters

### **huang tian [HUANG TIAN] (14 messages)**

Duration: 19 minutes [.....|..|.|.|.|.|.|.|.|.|.....]

1. 10:12:35 ok
2. 10:13:51 Solid: inheritance Dotted: student implements payee
3. 10:16:51 Can be linked to 0 to 5 book
4. 10:17:53 Optional, student can be linked to 0 to 5 books
5. 10:18:11 Book can be linked to 0 to 1 student
6. 10:19:35 Association label
7. 10:21:21 Dependency, Preview generator refers to chapter
8. 10:23:14 Association class, student borrows book and the association is recorded in loan
9. 10:24:52 Open diamond: aggregation, book contains category
10. 10:25:14 Closed diamond: composition, book is made up of chapters

11. 10:28:00 navigation
12. 10:29:54 Category can navigate to itself
13. 10:31:54 Not specified for loan attributes
14. 10:32:20 Not specified for chapter

## **Dextor Goh Shao Wei [DEXTOR GOH SHAO WEI] (16 messages)**

Duration: 21 minutes [.....|..|.|.|||..|||.|.|.|||.....]

1. 10:11:45 OK
2. 10:14:09 both are inheritance but Dotted is interface.
3. 10:16:08 Multiplicity
4. 10:18:37 each book can be borrowed by zero or one student
5. 10:19:23 Labels
6. 10:19:36 the triangle indicates the direction
7. 10:20:47 dependencies
8. 10:23:40 association class. its related to the information about the borrows association between student and book
9. 10:24:39 open diamond is aggregation closed diamond is composite.
10. 10:25:10 Aggregation represents a container-contained relationship. Book contains categories
11. 10:25:42 composition is whole part relationship. chapters are part of the book.
12. 10:25:48 the chapters cannot exists without the book
13. 10:27:24 navigability
14. 10:29:22 Category has references to itself?
15. 10:32:22 Visibility is unspecified. Multiplicity is null.
16. 10:33:21 both unspecified\*

## **Brandon Koh [KOH ZHI QUAN, BRANDON] (23 messages)**

Duration: 21 minutes [.....|.|.|||||.|||.|.|.|.|||.....]

1. 10:12:30 hi
2. 10:12:36 ok
3. 10:13:26 one is implementing an interface, other is inheriting the class
4. 10:13:41 dotted - implent interface
5. 10:13:48 solid line - inherit class
6. 10:15:56 Multiplier (?)
7. 10:16:49 multiplicity
8. 10:17:37 Can take the values 0 or 1
9. 10:18:04 student can borrow maximum 1 book
10. 10:19:38 association
11. 10:19:45 i not v sure
12. 10:21:09 dependency
13. 10:22:49 Association class
14. 10:23:03 Loan is the association class of student and book
15. 10:25:12 Book contains chapter (container relationship)
16. 10:25:34 Composition
17. 10:25:39 and Aggregation
18. 10:27:43 navigatability
19. 10:29:18 Self-association (?)
20. 10:29:44 bidirectional navigatability
21. 10:32:09 private
22. 10:32:29 multiplicity is not stated so idk....
23. 10:33:48 oh so both is unknown

## **Han Liang Wee Eric (Tutor Eric)**

Duration: 30 minutes [ ..... | . | .. | | . | . | . | . | . | ..... | ..... ]

- Fan Yueh-Ching [FAN YUEH-CHING] (14 messages)**

1. 10:08:57 Ok
2. 10:11:40 One is for dependencies and one for association(?)
3. 10:13:19 multiplicities
4. 10:14:02 A book can have 0 or 1 borrower
5. 10:14:25 Who is Student
6. 10:16:06 Association role
7. 10:18:08 Dependencies?
8. 10:20:08 Association class
9. 10:21:40 Composition and aggregation
10. 10:22:20 Book composed of chapter and category can have book
11. 10:23:41 navigability
12. 10:25:08 Category has reference to itself(?)
13. 10:27:04 No default(?) for both
14. 10:27:22 As in not specified

1. 10:08:33 ok
2. 10:10:46 dotted line is implements, and full line is inherits
3. 10:13:09 multiples(or similar name)
4. 10:13:22 \*multiplicity
5. 10:13:55 0 or 1
6. 10:14:18 a book can have 0 or 1 student
7. 10:16:30 labels
8. 10:17:48 because it means that previous generator has dependency on chapter
9. 10:19:32 association class
10. 10:21:55 The black diamond is composition, book is the whole and chapter is the part(part of book).  
The non black diamond means aggregation, where category is the container and book is the containee
11. 10:23:42 navigability
12. 10:25:05 a category can be related to itself
13. 10:25:23 or related to another category
14. 10:26:56 protected (since no visibility shown)
15. 10:27:22 no multiplicity of chapter specified

Duration: 19 minutes [.....|..|.|.|.|.|.|.|.|.|.....]

1. 10:08:33 OK
2. 10:11:21 Student class implements payee interface vs Student class extends person abstract class
3. 10:11:36 i.e. inheritance relationship
4. 10:12:55 Multiplicity?
5. 10:14:16 0 to 1 student borrows books
6. 10:16:06 Association labels, the arrow head indicates direction which label is to be read
7. 10:18:27 It is a dependency rather than a navigability line
8. 10:19:42 association class
9. 10:19:49 give info abt the association
10. 10:21:53 Solid diamond is composition, so book composes chapter Hollow diamond is aggregation, a weaker relationship than composition
11. 10:23:03 As per the notes, we should not use aggregation yes?
12. 10:23:48 Navigability
13. 10:25:39 Categories can be navigated to different categories (may or may not be itself)
14. 10:26:34 Unspecified
15. 10:27:35 Unspecified as well?

file: chat-log-Incogdino-[1].txt

Duration: 31 minutes [.....|..|.|.|.|.|.|.|.|......|.....]

### Joshua Gan Yi En [JOSHUA GAN YI EN] (11 messages)

1. 12:10:48 OK
2. 12:15:38 Multiplicity
3. 12:16:53 Either 0 or 1 Student (borrower) involved in the Loan
4. 12:18:18 Association label, Triangle indicates direction
5. 12:20:30 It's a dependency
6. 12:21:51 Association link, means Loan shows relationship between Student and Book
7. 12:24:13 Solid is Composition, Empty is Aggregation
8. 12:24:35 Comp is whole-part, Aggr is container-contained
9. 12:26:36 Navigability
10. 12:28:30 Category objects hold references to other Categories they are related to (both ways).
11. 12:30:53 default visibility unspecified multiplicity

**Duration:** 18 minutes [.....|.|||.|||.|||.|||.|||] .....



1. 12:12:51 Ok
2. 12:14:08 1) The one with dotted line is implementing an interface, the one with solid line is inheriting a class/abstract class
3. 12:15:10 2) Multiplicity
4. 12:17:13 3) It means the number of instances one class can hold associated to another class
5. 12:18:06 4) Association labels, triangle means direction
6. 12:20:19 5) It denotes dependency between the PreviewGenerator and Chapter class
7. 12:22:27 6) Association class, it has the value/informations of the association
8. 12:24:48 7) The empty diamond represents aggregation, it specifies a container-containee relationship; the filled diamond represents composition, and specifies whole-part relationship
9. 12:26:43 8) Navigability
10. 12:28:33 9) A category can hold references to multiple other categories
11. 12:31:11 10) Default/package private, any number

**Sulaksha Muthukrishnan [SULAKSHA MUTHUKRISHNAN] (12 messages)**

Duration: 31 minutes [.....|..|.||.|.|.|.|.|.|..|.....|.....]

1. 12:12:25 Ok
2. 12:15:48 Number of instances allowed?
3. 12:17:01 There is either 0 or 1 instance of a Student
4. 12:18:58 Triangle represents has -a relationship
5. 12:20:16 It shows the dependency
6. 12:22:23 Loan is an association class
7. 12:24:12 White is aggregation black is composition
8. 12:26:24 Navigable association
9. 12:28:52 idk
10. 12:31:08 Private?
11. 12:31:28 unspecified
12. 12:44:16 bye

**Casie Lim [CASIE LIM] (12 messages)**

Duration: 19 minutes [ ..... | . | . | | | . | . | . | . | . | ..... ]

1. 12:11:50 ok
2. 12:13:58 inherits (solid line) implements (dashed line)
3. 12:15:23 multiplicity
4. 12:16:27 0 or 1
5. 12:17:47 label
6. 12:18:12 student borrow book category related to another category
7. 12:20:34 cus is a dependency line
8. 12:22:11 represents association to Student and Book
9. 12:24:30 Aggregation (empty diamond) Composition (solid diamond)
10. 12:26:39 direction?
11. 12:28:39 a category can have reference to other category
12. 12:30:52 unspecified

**Gek Jun Xu [GEK JUN XU] (13 messages)**

Duration: 18 minutes [ .....|.|.|.|.|.|.|.|.|.....]

1. 12:13:06 ok
2. 12:13:36 object vs interface?
3. 12:15:27 number of links? I forgot
4. 12:16:32 can have minimum 0 maximum 1 associations
5. 12:18:04 the owner? meaning belonging to or something

6. 12:20:17 haven't read until that part of the notes
7. 12:21:43 depends on an association to be present?
8. 12:23:56 composition vs aggregation
9. 12:24:29 represents the composition and aggregation relationships
10. 12:26:38 inheritance
11. 12:28:33 dunno
12. 12:31:04 default visibility?
13. 12:31:19 multiplicity not sure

### **Rajesh Swati [RAJESH SWATI] (13 messages)**

Duration: 18 minutes [.....|.|||.|.|.|||.||.....]

1. 12:12:58 okay
2. 12:14:04 Dependency and association
3. 12:15:47 I forgot the name but I know it means the range of instances allowed
4. 12:16:32 Almost 1
5. 12:16:48 \*atmost 1 student can borrow a book
6. 12:18:04 Association label and the triangle is the direction
7. 12:20:36 Thats because it is dependency, meaning does not have to directly associate?
8. 12:22:05 Association class
9. 12:24:15 Filled diamond - composition and the other one is aggregation
10. 12:25:05 Aggregation - chapter cannot exist without book Composition - book can exist without category
11. 12:26:43 Direct association
12. 12:28:20 A category instance can be related to a category instance'
13. 12:31:05 Protected, 1

### **Shi Jianxi [SHI JIANXI] (15 messages)**

Duration: 18 minutes [.....|.|||.|.|.|||.||.....]

1. 12:12:59 OK
2. 12:13:31 inherit extend
3. 12:13:36 implement
4. 12:13:50 solid arrow for extend, dash arrow for implement
5. 12:15:22 each student can borrow 0-5 book and each book can be borrowed by 0-1 student
6. 12:16:28 0 to 1
7. 12:16:48 each book can be borrowed by 0-1 student
8. 12:17:57 student borrows book A category can be related to another category
9. 12:19:56 it is a dependency
10. 12:21:38 Association class Loan is an association class between student and book
11. 12:24:21 empty diamond is container-containee relationship solid diamond is whole-part relationship category contain book chapter is part of a book
12. 12:26:15 navigability
13. 12:28:14 A category has a reference to another category
14. 12:30:45 package private
15. 12:31:00 multiplicity for chapter is default

### **Cajetas Eliza Ingrid Gallano [CAJETAS ELIZA INGRID GALLANO] (16 messages)**

Duration: 19 minutes [.....|...|...|...|...|...|...|...|...|...|...|...|...|...|...|...]

1. 12:10:55 Ok
2. 12:14:10 The one in straight line is association. The one in the dotted line is like it wont compile when the other is not there
3. 12:15:19 multiplicity

4. 12:16:38 It means that there could be 1 or 0 students borrowing a book
5. 12:17:43 Its the association lanel
6. 12:18:01 The triangle is like a direction to show which one does which
7. 12:18:12 For example, the student BORROWS the book
8. 12:18:20 Rather than the book borrows the student
9. 12:20:45 There is no direct association. Preview Generator does not have chapter as an attribute.  
However it uses chapter in its parameter for a method. Hence, it wont compile without chapter
10. 12:21:04 This shows dependency rather than association. If its a solid line then it would be association
11. 12:21:57 Association class
12. 12:24:28 Composition for the solid one and aggregation for the empty one
13. 12:26:20 navigation
14. 12:29:07 Category is related to category
15. 12:30:46 The visibility is irrelevant
16. 12:30:53 And the multiplicity also irrelevant

## **Wang Zishen Harbour [WANG ZISHEN HARBOUR] (21 messages)**

Duration: 18 minutes [.....|.|.|.|.|.|.|.|.|.|.....]

1. 12:12:00 OK
2. 12:13:40 One is dependance one is inheratance
3. 12:14:28 wait sorry imeplemtnation its triangle not arrow
4. 12:15:18 multiplicity
5. 12:16:31 a book can have 0 to 1 borrowers
6. 12:16:49 (can be borrowed (by 1 student) or not borrowed)
7. 12:17:46 labels
8. 12:17:55 the arrow is which direction the lable should be read
9. 12:18:00 for example student borrows book
10. 12:20:04 it is dependant on it, instead of navigatability
11. 12:20:21 since chapter is an arg of getpreview, without chapter it cannot run
12. 12:21:48 association class
13. 12:22:26 it has a connection to the association between book and student (the info of borrows is stored in loan)
14. 12:24:21 aggregation and composition, where blacked in is composition.
15. 12:24:37 composition means book is composed of champter, in this case, so when book is destroyed so does chapter
16. 12:24:53 aggregation means category contains book
17. 12:26:22 navigability
18. 12:26:29 can navigate for example from book to champter
19. 12:26:45 which is unidirectional. Category is bidirectional to itself
20. 12:28:17 bidirectional. So category has a reference to itself. (so Id assume it's automatically bidrectrional)
21. 12:30:40 default and unspecified

## **Javier Tan Meng Wee (Tutor Javier)**

- Hi guys please turn on your webcam! Also leave it on throughout the meeting!

## **F08-1,2 [tutor: Jet]**

file: chat-log-jetlfj-[2].txt

**[BOH XIANG YOU BASIL] (0 messages -- low participation)**

**[FONG KAI JIE] (0 messages -- low participation)**

**[LUM YI REN JOHANNSEN] (0 messages -- low participation)**

**[HWANG MEI QI, FELICIA] (0 messages -- low participation)**

**Tay Kai Jun [TAY KAI JUN] (1 messages -- low participation)**

Duration: 1 minutes [.....|.....]

1. 08:30:22 Object

**Sridhar Pooja [SRIDHAR POOJA] (12 messages)**

Duration: 18 minutes [.....|.|.|.|.|.|.|.....]

1. 08:09:34 ok
2. 08:10:29 implementing interface?
3. 08:12:59 multiplicity
4. 08:13:50 a book can be borrowed by 0 to 1 students
5. 08:15:43 label, direction
6. 08:18:10 association class?
7. 08:19:49 association class
8. 08:20:27 has info abt the student and book class
9. 08:21:58 Composition, a chapter is composed in a book
10. 08:24:05 dependencies
11. 08:25:53 A category is related to a category?
12. 08:27:59 1?

**Keith Tan [KEITH TAN] (12 messages)**

Duration: 19 minutes [.....|.|.|.|.|.|.|.....]

1. 08:09:23 okay
2. 08:10:43 dashed line with white triangle is interface
3. 08:10:53 solid line with white triangle is class
4. 08:12:36 multiplicity
5. 08:13:53 student borrows zero or no books
6. 08:16:05 association: it means when a student borrows books it has loan details
7. 08:18:35 I think it means that it is associated but not strongly meaning it has no identifier to chapter
8. 08:20:19 transaction details
9. 08:22:32 compartment if solid means chapter cannot exist without a book: if book is deleted so is chapter if hollow means book can still exist without a category
10. 08:24:02 relation
11. 08:26:26 category can navigate to itself?
12. 08:28:44 for missing attributes: not sure for missing multiplicity I think is only 1 reference

**Tan Zhang-Hng Ervin [TAN ZHANG-HNG ERVIN] (12 messages)**

Duration: 37 minutes [.....|.||||.|.|.|.....|...]

1. 08:09:28 OK
2. 08:11:32 Dashed - Inheritance Solid Line - Interface?
3. 08:12:40 optional
4. 08:13:44 can be linked to 0 or 1 object
5. 08:15:57 association?
6. 08:18:15 it is because it is only a dependency relationship?
7. 08:20:29 not so sure on this :/ association still?
8. 08:21:40 composition and aggregation

- 9. 08:24:00 navigability
- 10. 08:26:24 self association
- 11. 08:28:35 default package visibility? there is a composition, so a chapter cannot exist without book
- 12. 08:46:41 ok!

### **Tan Yu Yang [TAN YU YANG] (12 messages)**

Duration: 19 minutes [.....|..|.|.|..|.|.|.|.....]

- 1. 08:09:21 ok
- 2. 08:12:45 multiplicity
- 3. 08:14:10 how many (0 or 1) of student can be associated to book
- 4. 08:15:44 association label
- 5. 08:18:18 dependency
- 6. 08:19:45 association class
- 7. 08:20:31 it stores information about student and book
- 8. 08:22:05 aggregation and composition
- 9. 08:22:29 aggregation is a container-contained relationship
- 10. 08:24:39 navigability
- 11. 08:26:08 they both have references to each other
- 12. 08:28:28 no visibility means it is unspecified

### **John Gao Jiahao [JOHN GAO JIAHAO] (13 messages)**

Duration: 19 minutes [.....|..|.|.|.|.|.|.|.....]

- 1. 08:08:28 ok
- 2. 08:11:06 Student implements the payee interface But the Student also inherits from the person abstract class
- 3. 08:12:38 multiplicity
- 4. 08:14:04 A book can only have one borrower or none
- 5. 08:15:44 Navigability
- 6. 08:16:06 It shows the relationship between classes
- 7. 08:18:08 It only represents a dependency
- 8. 08:19:52 Association class
- 9. 08:20:13 Its represents a linking class between the 2 classes
- 10. 08:22:09 Black diamond represents composition and hollow diamond represents aggregation
- 11. 08:24:01 It is called the navigability
- 12. 08:26:22 Its saying that category has an association with itself
- 13. 08:28:16 Not sure

### **Jovin Ang Yusheng [JOVIN ANG YUSHENG] (16 messages)**

Duration: 19 minutes [.....|.|.|.|.|.|.|.|.....]

- 1. 08:09:27 OK
- 2. 08:10:58 dotted line implies implements, other one is extends
- 3. 08:12:41 multiplicity
- 4. 08:13:52 means that book may link to one student or none
- 5. 08:15:21 labels
- 6. 08:15:29 association labels
- 7. 08:15:42 triangle represents the direction
- 8. 08:15:50 from one object to another
- 9. 08:16:25 for example: student borrows book, not book borrows student
- 10. 08:18:14 previewgenerator depends on chapter, i.e. cannot exist without it
- 11. 08:20:06 an association class, involving/referencing 1 student and 1 book object
- 12. 08:22:09 composition (filled diamond), aggregation (other diamond)

13. 08:24:31 navigability (i.e. which object can navigate to which, direction)
  14. 08:26:13 the association is bidirectional
  15. 08:26:33 both categories are related to one another and can access each other
  16. 08:28:30 in uml, if anything unspecified, means no information
- 

## **T08-1,2 [tutor: Jet]**

file: chat-log-jetlfj-[1].txt

### **Jaylon Ezekiel Tan Jiong Rui [JAYLON EZEKIEL TAN JIONG RUI] (6 messages)**

Duration: 20 minutes [.....|..|.....|..|...|.....]

1. 08:12:20 Hi theres a problem with my camera, im trying to set it up
2. 08:15:01 dashed is dependency
3. 08:25:25 association class
4. 08:28:11 hollow is aggregation
5. 08:28:16 filled is composition
6. 08:32:22 bidirectional association

### **Koh Tze Shyan Benjamin [KOH TZE SHYAN BENJAMIN] (10 messages)**

Duration: 19 minutes [.....|.|.|.|.|.|.|.|.|.....]

1. 08:14:29 Koh Tze Shyan Benjamin Dashed line is a dependency, solid line is an association
2. 08:16:47 Koh Tze Shyan Benjamin Multiplicity
3. 08:19:05 Book is associated to either none or 1 student
4. 08:21:22 Association Label The arrow indicates the navigability of this association
5. 08:23:14 Its a dependency, not an association
6. 08:24:58 This is an association class. It represents additional information about the association
7. 08:27:08 These are compositions. It means a strong whole-part relationship
8. 08:30:36 Navigability
9. 08:32:09 Two way navigabilityv
10. 08:34:05 Not sure

### **Wang Yanxiang [WANG YANXIANG] (11 messages)**

Duration: 23 minutes [.....|.|.|.|.|.|.|.|.|.....]

1. 08:11:02 ok
2. 08:14:42 Its for interface
3. 08:16:38 multiplicity
4. 08:19:10 A student can borrow 0 to 5 books. Book can be unborrowed.
5. 08:21:08 Association label. arrow head is the direction label is to be read
6. 08:23:33 Preview generator is dependent on chapter
7. 08:26:33 composition
8. 08:28:05 when the book is destroyed, chapters are destroyed too there cannot be cyclical links
9. 08:29:48 Navigability
10. 08:33:27 Bidirectional the two objects have reference to each other
11. 08:34:37 Visibility and multiplicity unspecified.

### **San Shao Qian [SAN SHAO QIAN] (12 messages)**

Duration: 24 minutes [.....|....|..|...|.|.|.|..|.|.....]

- Saravanan Sivaram Jeychand [SARAVANAN SIVARAM JEYCHAND] (14 messages)**

Duration: 24 minutes [.....|....|.|.|.|.|.|.|.|.|.....]

1. 08:09:22 Ok
2. 08:14:13 Implements class vs implements interface
3. 08:14:58 Sorry dashed line is implementation of interface
4. 08:15:11 Full line means class inheritance
5. 08:17:04 multiplicity
6. 08:18:44 Can take between 0 or 1 loans for borrowing books
7. 08:21:23 Association?
8. 08:21:56 navigability
9. 08:23:03 dependencies
10. 08:24:33 Association classes
11. 08:24:50 Used to denote a class that stores information regarding an association between other classes
12. 08:26:38 Black diamond refers to composition, white refers to aggregation
13. 08:27:51 Book composes of chapters, while the books are contained within the category containers
14. 08:29:36 Navigability
15. 08:31:32 Category is associated to itself
16. 08:34:18 Not decided yet or not important tot he diagram

### **Teo Zi Kang Jensen [TEO ZI KANG JENSEN] (18 messages)**

Duration: 39 minutes [.....|.||..|.||..|||||.|||.....]

1. 08:11:57 Sry i am trying to change to the laptop
2. 08:13:15 ok
3. 08:14:32 the child class
4. 08:14:45 i mean its parent class
5. 08:17:00 no idea :(
6. 08:17:40 enumerations?
7. 08:19:09 there are 2 students?
8. 08:20:56 association label
9. 08:23:41 is it the same as implementing the interface?
10. 08:24:42 association class
11. 08:25:08 it stores information used by both class
12. 08:26:41 composition and aggregation
13. 08:26:49 book has a chapter
14. 08:27:23 book also can have a category
15. 08:29:56 arrow
16. 08:32:22 it have references to itself?
17. 08:32:57 sry i need to go toilet have a stomache
18. 08:51:12 thanks byebye

### **Ong Jia Jun Clif [ONG JIA JUN CLIF] (19 messages)**

Duration: 24 minutes [.....|...|.|||...|||.||..||..|.....]

1. 08:10:01 ok
2. 08:14:23 Interface vs inheritance
3. 08:14:39 DDashed is interface
4. 08:16:55 optional is 0..1 so 0 or 1 linked object
5. 08:17:09 0..5 means 0 to 5 linked objects
6. 08:18:21 ^^
7. 08:22:00 directed association
8. 08:23:06 Dependencies
9. 08:23:31 Chapter depends on PreviewGenerator
10. 08:24:33 Association class
11. 08:24:50 Loan is associated with bank and student
12. 08:26:33 Black diamond = composition



13. 08:26:46 White diamond = aggregation
14. 08:26:54 Book contains chapter
15. 08:27:14 Category contains book
16. 08:30:00 Association
17. 08:30:24 Navigability?
18. 08:31:35 bidirectional navigability
19. 08:34:10 Not sure

## **Lu Bolin [LU BOLIN] (25 messages)**

Duration: 24 minutes [.....|...|.|||.|||.|||||.|||.|.....]

1. 08:09:56 wait is there sound, i cant hear anything
  2. 08:10:04 is it a me problem
  3. 08:10:20 I reconnect
  4. 08:11:24 ok
  5. 08:11:38 ye
  6. 08:14:07 it means student extends from Person and implements Payee
  7. 08:16:47 Participation constraint
  8. 08:17:02 Or i think its called "Multiplicity"
  9. 08:18:45 A book can have 0 to 1 borrower. So basically a book can be borrowed by 1 person, or not borrowed
  10. 08:20:48 The triangle is the navigability direction
  11. 08:21:14 the string is like a description of the relation
  12. 08:21:34 \*description of the association
  13. 08:21:42 no its not navigability sorry
  14. 08:23:00 This is dependency
  15. 08:23:23 getPreview depends on a valid Chapter definition to be valid
  16. 08:24:56 This is an associated class
  17. 08:25:02 This means for each student-book pair, there is a loan object
  18. 08:26:27 Solid diamonds represent composition
  19. 08:27:41 The interpretation is a whole-part relationship
  20. 08:27:47 the side with the diamond is the whole
  21. 08:29:49 navigability
  22. 08:32:23 means they each of a reference to the other object
  23. 08:34:08 class level
  24. 08:34:26 chapter should be 1...\*
  25. 08:34:44 oh no as in on the chapter's side, it is just 1
- 

## **T10-1,2 [tutor: Jiahao]**

file: chat-log-woojiahao-[1].txt

## **Russell Ng Jung Hng [RUSSELL NG JUNG HNG] (8 messages)**

Duration: 22 minutes [.....|.|||.|||.|||.|||.|||.|.....]

1. 10:13:54 ok
2. 10:15:07 extends vs implements
3. 10:18:01 multiplicity
4. 10:19:12 0 to 1 inclusive
5. 10:21:45 indicates direction of association
6. 10:24:32 i forgot :(
7. 10:27:10 association class. provides more info about the association
8. 10:36:11 dependency?

## **Reuben Thomas [REUBEN THOMAS] (10 messages)**

Duration: 28 minutes [.....|..|...|. |..|..|....|..|.....|.....]

1. 10:12:25 OK
2. 10:15:36 dependencies
3. 10:19:31 number of instances of a class associated with another?
4. 10:21:48 association label
5. 10:24:53 Showing dependency relation between classes
6. 10:27:13 associative class
7. 10:32:23 aggregation
8. 10:32:55 and composition for the filled one
9. 10:35:42 navigability, but I'm not sure what it means apart from the direction
10. 10:41:03 unspecified visibility

## **Tan Yi Kai [TAN YI KAI] (10 messages)**

Duration: 29 minutes [.....|...|..| |..|. |..|....|..|.....|.....]

1. 10:11:42 ok
2. 10:15:31 Solid line is an association, dotted line is a dependency
3. 10:18:10 the multiplicity of the relationship
4. 10:19:32 There can be a student or no student for each relationship
5. 10:22:20 association labels
6. 10:24:51 It's not inheriting from Chapter, but it needs Chapter in getPreview(Chapter)
7. 10:27:41 dont rmbr the name but something about the relationship
8. 10:32:40 composition, as a Book consists of multiple chapters
9. 10:35:59 the 'navigatability', that Book composes of chapters and not the other way round
10. 10:41:23 visibility: package private, multiplicity: each book can have multiple chapters

## **Zihan Shen [SHEN ZIHAN] (11 messages)**

Duration: 29 minutes [.....|. |. |. |..|..|. |....|..|.....|. |.....]

1. 10:13:47 ok
2. 10:15:22 implements VS extends
3. 10:17:54 multiplicity
4. 10:19:28 each student can have up to 5 books (can have 0) each book has one borrower or null
5. 10:22:21 association label
6. 10:25:05 dependency
7. 10:27:12 association class
8. 10:32:30 composition
9. 10:35:37 navigability
10. 10:41:07 inspecified
11. 10:43:04 object

## **Neo Wei Jun Samuel [NEO WEI JUN SAMUEL] (12 messages)**

Duration: 33 minutes [.....|...|...|. |. |. |..|..|....|..|....|.....]

1. 10:07:09 sorry I cant unmute, can I text here
2. 10:07:52 I'm a Y3 chemistry + cs ddp, and I play the piano
3. 10:11:55 OK
4. 10:15:15 dotted is implementing an interface, solid is inheriting a class
5. 10:17:52 multiplicity
6. 10:19:15 each student can borrow 0 to 5 books each book can be borrowed by 0 to 1 students
7. 10:21:51 association triangle specifies the direction

- Nishiwaki Hibiki [NISHIWAKI HIBIKI] (13 messages)**

1. 10:13:29 ok
2. 10:15:41 The dashed arrow means “implements”, while the actual one means “extends”
3. 10:18:09 The number of objects per the other object
4. 10:19:18 Each Book has 0 or 1 Student
5. 10:22:07 Relationship The direction of relationship
6. 10:24:54 Indirect association; the two classes do not have each other as their fields
7. 10:27:26 Association class, adding the extra information class on the association
8. 10:32:52 Composition, “has-a” relationship, aggregation, “containee-container” relationship
9. 10:35:31 One object has the other as its field(s)
10. 10:41:00 Unclear, since they are not written
11. 10:42:04 How can we express the package private then?
12. 10:43:14 Object
13. 10:43:26 The associations between objects

**Kee Ga Jin [KEE GA JIN] (14 messages)**

Duration: 39 minutes [.....|.|.||.|.|.|.....|.|. ....|.....]

1. 10:13:28 ok
2. 10:15:23 dotted is implements. solid is inherits something like that
3. 10:18:17 multiplicity
4. 10:19:06 o or 1
5. 10:21:55 association something
6. 10:22:02 label
7. 10:24:23 its a note
8. 10:25:00 oh wait dependency
9. 10:27:20 association class. student loans book
10. 10:32:33 Composition and Aggregation
11. 10:32:58 whole part and contains relationship
12. 10:35:30 navigability
13. 10:40:56 public any number prbly
14. 10:52:35 thanks bye

**Zhang Li Fei [ZHANG LI FEI] (16 messages)**

Duration: 34 minutes [.....|..|..|.|.|.|..|....|...|...|.|...|..]

1. 10:12:26 ok
2. 10:15:18 solid line is association
3. 10:15:51 dotted line is dependency
4. 10:18:23 multiplicity
5. 10:19:15 optional for student to borrow a book
6. 10:19:29 and a student borrows 0-5 books
7. 10:21:44 label and direction
8. 10:22:02 as in student borrows book
9. 10:24:36 its a dependency
10. 10:27:20 class to keep track of relation between

11. 10:32:43 solid diamond is composition so chapter is part of book empty diamond is aggregation
12. 10:36:21 reference
13. 10:40:54 visibility is unspecified
14. 10:41:09 multiplicity also unspecified
15. 10:43:04 object
16. 10:47:23 1-3

## **Jonathen Cheng Yuzhe [JONATHEN CHENG YUZHE] (21 messages)**

Duration: 39 minutes [.....|.....|.||.||..|...|...|...|...|...|.||.]]

1. 10:12:48 do I need to intro?
2. 10:13:42 hi jia hao I need to relocate the class im in has ppl coming in
3. 10:19:27 book belongs to 1/0 student
4. 10:19:37 each student is allowed to have 0 to 5 books
5. 10:21:46 labels
6. 10:22:06 relationship direction
7. 10:24:40 dependencies
8. 10:27:14 class that keeps track of the relationship between the 2 classes
9. 10:27:30 relationship class?
10. 10:31:10 yup
11. 10:32:37 aggregation(empty) and composition(solid)
12. 10:36:05 association?
13. 10:37:54 hi could you explain why category has 2 arrows to itself
14. 10:40:42 unspecified
15. 10:40:56 unspecified
16. 10:44:14 it shows the network of objects
17. 10:46:14 aggregation between children and b2 where b2 is the containee
18. 10:47:15 1,2,3
19. 10:47:28 3,4,5 students to 1,2,3 teams
20. 10:49:19 there should be no external server
21. 10:52:40 thank you bye

## **Woo Jia Hao (Tutor Jiahao)**

- Can you guys hear me?
  - Wait can you guys not hear me?
- 

## **F11-3,4 [tutor: Jonas]**

file: chat-log-jonasongg-[2].txt

## **Watanabe Yuto [WATANABE YUTO] (12 messages)**

Duration: 33 minutes [.....|...|...|.||..|...|.||..|...|.....|.....]

1. 11:12:18 hi
2. 11:13:32 solid line means inheritance, and dot line means implementation of interface
3. 11:17:00 multiplicity
4. 11:18:57 a book is borrowed by one student or none
5. 11:21:12 name: I don't know meaning: relationship of two classes (e.g. student borrows books)
6. 11:23:17 Since there's no explicit relationship (i.e. PreviewGenerator doesn't store an object of Chapter)
7. 11:27:13 association class: a class to store additional information for association of two other classes
8. 11:29:09 white diamond: composition, black diamond: aggregation

9. 11:32:46 name: I don't know meaning: showing which object holds which object
10. 11:34:55 name: I don't know meaning: related categories have references of each other
11. 11:38:04 not specified
12. 11:45:52 1, 2 or 3

### **Zenn Saw Biaw Sim [ZENN SAW BIAW SIM] (13 messages)**

Duration: 31 minutes [.....|...|...|...|...|...|...|...|.....|.....]

1. 11:14:00 Dotted line is inheriting interface? While solid means inheriting a class
2. 11:17:36 Number or instance
3. 11:17:48 of\*
4. 11:18:25 Zero or 1 object
5. 11:20:57 Association?
6. 11:23:18 To represent Dependency
7. 11:27:27 Association class? Not sure
8. 11:29:18 Aggregation (white diamond) and Composition (Solid Diamond)
9. 11:30:16 A book composes chapter and chapter cannot exist without a book
10. 11:34:20 Categories are related to one another?
11. 11:36:21 No
12. 11:37:55 Visibility is unspecified
13. 11:45:49 1-3?

### **Chang Jia Yang [CHANG JIA YANG] (13 messages)**

Duration: 32 minutes [.....|...|...|...|...|...|...|...|.....|.....]

1. 11:13:51 Student implements Payee as an interface but inherits from Person
2. 11:17:44 multiplicity of student against book
3. 11:18:48 one Book is associated with at most one Student
4. 11:21:05 association
5. 11:25:43 no?
6. 11:26:39 association class, used to store information about the association between Student and Book
7. 11:28:50 composition for filled diamond, aggregation for hollow diamond
8. 11:29:21 aggregation is a Container-Contained relationship, composition is a has-a relationship
9. 11:32:22 navigability
10. 11:34:23 Categories can be referenced from other Categories
11. 11:36:25 functionally identical..?
12. 11:38:02 default visibility, unspecified multiplicity
13. 11:45:53 1 to 3

### **Ngo Duc Anh [NGO DUC ANH] (14 messages)**

Duration: 33 minutes [.....|...|...|...|...|...|...|...|.....|.....]

1. 11:16:53 constraint
2. 11:18:46 one to many :v
3. 11:21:03 no idea 😞
4. 11:23:02 dependency
5. 11:27:27 relationship?
6. 11:29:00 aggregation and composition
7. 11:32:09 direction
8. 11:34:53 direct from class to class
9. 11:37:53 public
10. 11:38:13 chapter is a part of book
11. 11:41:42 instances
12. 11:44:20 adam loaned 2 books

14. 11:50:30 Thank you so much!

Duration: 33 minutes [.....|.|.|.|.|.|.....|...|.|.||.....|....]

1. 11:12:37 OK
2. 11:14:05 Inheritance Dotted line: inheritance from interface
3. 11:16:51 Multiplicity
4. 11:18:59 How many objects one can be associated with the other object
5. 11:20:46 An association role I think The triangle is the direction of the relation 'A is related to B in this way'
6. 11:22:42 Dependency
7. 11:27:17 Association class. Its gives you additional information about an association
8. 11:29:44 Aggregation(white diamond) and composition(solid) Represents when one class has a collection of another class. Aggregation is a case when the whole object is removed some parts can still continue to exist. But in composition it can't
9. 11:32:36 It shows the navigability of the relation. I'm not sure about the name
10. 11:34:36 Self association? Instances of the class can interact with each other
11. 11:36:25 No
12. 11:37:45 Public
13. 11:38:17 Oh sorry I think its unspecified
14. 11:45:57 3

Duration: 38 minutes [.....| |.....|.|.|.|.|| |..|.|| ..|| .....]

1. 11:12:29 ok
2. 11:13:46 solid line — inheritance dashed line — interface implementation
3. 11:19:32 Multiplicity Notation: 0...1 : 0 or 1 0...5: 0 to 5 1..\* : at most 1
4. 11:21:09 triangle means direct association
5. 11:23:12 represents dependency — preview generator depends on chapter
6. 11:25:41 no
7. 11:27:19 the loan is an association class
8. 11:28:56 uncoloured — aggregation : “has-a” relationship
9. 11:29:15 coloured — composition : “part-of” relationship
10. 11:32:29 navigability
11. 11:34:37 self-association
12. 11:35:41 1 category can contain multiple subcategories
13. 11:38:33 private?
14. 11:39:14 chapter —> book : chapter cannot exist independently of a book
15. 11:50:37 thank you

Duration: 35 minutes [ . . . . . | . | . . | . . | . | . . | | | | . . | . | . | . | | . . . | . | . | . . ]

1. 11:12:22 Ok
2. 11:14:08 Student implements interface?
3. 11:17:13 Student can have 0 to 5 books, book either belongs or doesn't belong to a student
4. 11:20:38 Imports class? Idk
5. 11:22:49 Association class
6. 11:25:32 No
7. 11:26:28 Association class
8. 11:27:31 Linked to both classes

9. 11:27:36 Stores info about both
10. 11:28:55 Solid diamond - Composition Destroyed if book is destroyed
11. 11:29:11 Hollow diamond - Aggregation
12. 11:32:05 Navigatability
13. 11:34:16 One category object is related to other categories?
14. 11:36:29 Idts
15. 11:38:05 Unspecified visibility Unspecified multiplicity No default for both
16. 11:39:43 Jonas I'll turn off my camera I'm headed for my next class ya thanks
17. 11:43:41 Adam has loaned two books - one children's fiction and one fiction
18. 11:45:36 1 to 3
19. 11:47:31 Sorz boss I need to leave for next tut. I'll try to join on my phone

### **Ong Xinyi [ONG XINYI] (20 messages)**

Duration: 38 minutes [.....|.....|..|..|..|..|..|..|..|.....|.....]

1. 11:12:17 OK
2. 11:13:42 Association labels
3. 11:18:33 association
4. 11:21:12 Generalisation relationship?
5. 11:22:56 It is a dependency
6. 11:25:36 No
7. 11:26:56 Association role (extra information about the association)
8. 11:29:03 Aggregation
9. 11:29:16 For hollow diamond
10. 11:29:27 Composition is black diamond
11. 11:30:03 They represent container-contained relationship but idk how different tbh
12. 11:32:31 To represent interaction between entities
13. 11:32:46 Sequence?
14. 11:34:13 Bidirectional
15. 11:36:34 Yes?
16. 11:38:00 Private?
17. 11:38:44 1
18. 11:41:34 Object, object structures
19. 11:46:04 1-3
20. 11:50:59 Wanted Target user: Petty friends who lends extensively to those around them Value Proposition: Easy access to records related to loans given (future extension: recording items that were lent to friends)

### **Nguyen Dinh Nam [NGUYEN DINH NAM] (22 messages)**

Duration: 35 minutes [.....|..|..|..|..|..|..|..|..|..|..|..|..|..|.....|..]

1. 11:13:20 ok
2. 11:13:42 dependence and subclass
3. 11:16:52 multiplicity
4. 11:18:48 1 or 0
5. 11:20:24 something related to?
6. 11:22:44 previewGenerator depends on chapter class
7. 11:26:50 association
8. 11:27:09 it connect student and book, like intermediary
9. 11:28:50 whole part
10. 11:29:03 container-contains
11. 11:29:09 aggregation
12. 11:29:35 container-contains is optional
13. 11:31:53 related to
14. 11:32:17 navigability

15. 11:34:11 category has a method to category
16. 11:36:18 yes
17. 11:38:00 loan attributes has methods of student and book but not other way
18. 11:38:09 multiplicity is \*
19. 11:41:19 object
20. 11:41:36 how objects related
21. 11:43:57 book have c1 and c2 chapter
22. 11:48:30 vague target user

## Paul Cheng Hsien Wen [PAUL CHENG HSIEN WEN] (26 messages)

Duration: 37 minutes [.....|...|.|.|||||.|||.||..|||.....|...|.]

1. 11:12:23 ok
2. 11:13:38 dotted line is implements
3. 11:13:44 solid line is extends
4. 11:16:46 multiplicity
5. 11:18:29 book can be borrowed by 0 or 1 student
6. 11:20:39 label
7. 11:21:09 student borrows (uses) book
8. 11:22:56 it is to show dependency
9. 11:23:11 and not association
10. 11:25:31 no
11. 11:26:33 association class
12. 11:26:54 loan is an association class because it stores information about the borrows association between the User and the Book.
13. 11:28:33 hollow diamond is aggregation
14. 11:28:43 solid diamond is composition
15. 11:29:08 chapter is composed in book
16. 11:29:21 book is aggregated to category
17. 11:31:49 synchronous
18. 11:32:15 the caller method is blocked from doing anything else until the called method returns
19. 11:32:28 Asynchronous method calls (i.e., the caller method does not have to wait till the called method returns) are shown using lined arrowheads
20. 11:35:06 Category class should know about the category class.
21. 11:36:20 yes
22. 11:37:44 unspecified
23. 11:45:40 1 or 2 or 3
24. 11:48:13 the target user is too vague, cannot use online server, should not be able to click bc everything should be typed
25. 11:48:24 ok
26. 11:50:22 tqqq

## W11-1,2 [tutor: Jonas]

file: chat-log-jonasongg-[1].txt

## [TAY HUA HONG WILLIE] (0 messages -- low participation)

## Grace Ng [GRACE NG] (8 messages)

Duration: 27 minutes [.....|....|.....|...|...|...|...|.....]

1. 11:12:22 the dotted line is abstract and the solid is inheritance
2. 11:17:01 optional or compulsory
3. 11:24:57 preview generator does not have to have a chapter?



- Matthan Foo Ce Xiang [MATTHAN FOO CE XIANG] (11 messages)**

1. 11:12:07 Extending and inheriting
2. 11:16:24 cardinality
3. 11:21:12 methods
4. 11:23:56 Dependency not association
5. 11:25:44 dependency
6. 11:27:33 association class
7. 11:30:25 Composition / aggregation
8. 11:32:57 navigability
9. 11:35:50 Category is related to itself
10. 11:39:05 Protected?
11. 11:39:51 No limit to multiplicity

**Ong Rui En Zephaniah [ONG RUI EN ZEPHANIAH] (12 messages)**

1. 11:12:48 The solid line is inheritance and dotted line is an implementation of an interface
2. 11:16:11 multiplicity
3. 11:20:29 An association
4. 11:22:05 It just defines the relationship between the 2 classes
5. 11:23:57 It is to show dependency
6. 11:25:49 dependency
7. 11:27:33 Association class
8. 11:30:29 White diamond is for aggregation
9. 11:30:47 Black diamond is for composition
10. 11:33:07 Pointer
11. 11:35:51 A category can relate to itself
12. 11:38:57 Visibility is package private Multiplicity is not stated

**She Yuting [SHE YUTING] (12 messages)**

1. 11:11:07 OK
2. 11:12:25 The dotted line means dependency
3. 11:16:57 Multiplicity
4. 11:20:42 triangle is inheritance relationship
5. 11:21:42 Association labels?
6. 11:24:29 Class dependency: Has-a relationship
7. 11:25:49 association
8. 11:27:56 Association class
9. 11:30:39 white diamond: Aggregation black diamond: Composition
10. 11:33:14 Inheritance
11. 11:36:09 It is associated to itself?
12. 11:38:53 public, any

## **Muhammad Juraimi Bin Rafinyi [MUHAMMAD JURAIMI BIN RAFINYI] (12 messages)**

Duration: 27 minutes [.....|...|...|...|.|.|.|.|...|.....]

1. 11:12:04 the solid line indicates that the class is extended from its parent class the dotted line indicates that the class is implementing an interface
2. 11:16:13 multiplicity
3. 11:20:59 association label meaning of the triangle is to indicate the direction in which the label is supposed to be read
4. 11:24:28 previewgenerator depends on chapter(?)
5. 11:25:42 association is stronger
6. 11:27:57 loan seems to be dependant on book/student? not sure the name
7. 11:28:29 isit dependency
8. 11:30:54 the white diamond is an aggregation. it represents a container-contained relationship. the black diamond is a composition
9. 11:32:57 navigability (not sure if spell correct)
10. 11:34:52 bidirectional?
11. 11:35:48 it is unidirectional?
12. 11:39:22 both is in unspecified

## **Chen Xinpeng [CHEN XINPENG] (13 messages)**

Duration: 33 minutes [.....|...|...|...|...|...|...|...|...|.....]

1. 11:11:22 ok
2. 11:12:26 the abstract class is an implementation of the interface
3. 11:16:43 index?
4. 11:18:35 0 to 1 student can be borrower
5. 11:21:03 association
6. 11:21:29 how the classes are related
7. 11:25:03 preview generator the dependent of chapter
8. 11:28:34 reference
9. 11:28:42 loan refers to book
10. 11:33:01 directed association
11. 11:35:36 bidirection
12. 11:39:11 public, not limited
13. 11:44:44 book b2 is children fiction, b1 is fiction

## **Ng Jia Quan [NG JIA QUAN] (14 messages)**

Duration: 35 minutes [.....|...|...|...|...|...|...|...|...|.....]

1. 11:12:07 is-a relationship dotted for interface, solid for class
2. 11:17:07 idk
3. 11:20:29 association label
4. 11:21:20 has-a relationship?
5. 11:24:48 include?
6. 11:25:47 association?
7. 11:27:41 association class
8. 11:30:41 aggregation and composition
9. 11:33:16 navigability
10. 11:35:35 bidirectional
11. 11:36:01 category can have subcategories?
12. 11:39:53 not sure
13. 11:44:24 cateogries of b1 and b2
14. 11:47:22 any number

## Zhang Leran [ZHANG LERAN] (15 messages)

Duration: 33 minutes [.....|...|...|..|..|. |..||. |..|.....|...]

1. 11:12:39 The dashed line means inherit from an interface the solid line is inherit from a class
  2. 11:16:27 multiplicity
  3. 11:20:19 association labels
  4. 11:21:22 triangle means direction of association
  5. 11:24:31 it means dependency
  6. 11:25:38 association
  7. 11:28:10 association class it associate with both student and book class
  8. 11:30:36 white diamond is aggregation it means category is a container for book
  9. 11:30:53 black diamond is composition. it means chapter is part of book
  10. 11:33:20 association
  11. 11:34:55 bidirection
  12. 11:36:03 can navigate from one category to other
  13. 11:39:09 visibility and multiplicity are unspecified
  14. 11:39:16 or not important
  15. 11:46:35 1 to 3
- 

## W09-1,2 [tutor: Kyle]

file: chat-log-xCOLOURx-[1].txt

[ERNEST LIM SONG YING] (0 messages -- low participation)

[ONG LI HONG] (0 messages -- low participation)

## Heng E Chun [HENG E CHUN] (11 messages)

Duration: 23 minutes [.....|..|..|. |. |..|||...|. |. |.....]

1. 09:11:31 ok
2. 09:14:22 dotted: has-a, solid: is-a
3. 09:17:17 they are cardinalities
4. 09:19:00 student can have max 1 loan
5. 09:21:17 relation...?
6. 09:24:05 it's a dependency relationship not a direct association
7. 09:25:44 association class
8. 09:26:50 composition relation
9. 09:30:22 navigability
10. 09:32:32 one class points to another?
11. 09:34:55 loan: public????

## Ron Quah Kai Yi [RON QUAH KAI YI] (12 messages)

Duration: 40 minutes [.....|.....|. |..|. |. |. |. |..||..|.....|]

1. 09:08:58 OK
2. 09:14:14 dashed line is for interface implementation, solid line represents inheritance
3. 09:16:58 multiplicity
4. 09:19:15 a Student can be associated with at most one instance (or none) of the related entity (Book).
5. 09:21:28 association label, direction of association
6. 09:23:27 represents a dependency relationship
7. 09:25:37 association class, represents separate entity

8. 09:27:40 hollow diamond is for aggregation. solid diamond is for composition. book contains many chapters. book can belong to a certain category
9. 09:30:38 navigability
10. 09:31:58 a category could be related to another category
11. 09:34:39 Both unknown
12. 09:49:34 thanks

### **Gabriella [GABRIELLA] (13 messages)**

Duration: 22 minutes [.....|..|.|.|.|.|.|.|.|.....]

1. 09:12:07 ok
2. 09:15:14 one is extend and payee is implement
3. 09:16:49 multiplicity
4. 09:18:55 value of the multiplicity
5. 09:19:30 has a variable that can hold 0..1
6. 09:20:54 association label
7. 09:23:17 dependency
8. 09:25:20 association class
9. 09:26:28 composition
10. 09:27:43 means it consist of that object?
11. 09:30:24 navigation of the association
12. 09:32:04 reference
13. 09:34:26 not specified

### **Loh Zheng, Lucas [LOH ZHENG, LUCAS] (13 messages)**

Duration: 36 minutes [.....|...|...|...|.|.|.|...|.|.|.....|...]

1. 09:09:14 Ok
2. 09:13:29 Dashed line is “implements” and solid line is “inherits”
3. 09:17:04 Student can borrow 0-5 books, a book can have a borrower of 0-1 students
4. 09:17:34 Multiplicity
5. 09:18:43 Student can borrow 0-5 books, a book can have a borrower of 0-1 students
6. 09:21:03 Label. The triangle points to the direction the label should be read in, e.g. student borrows book
7. 09:23:42 Preview Generator has a dependency on Chapter, but does not inherit from Chapter
8. 09:25:28 Association Class
9. 09:27:10 Aggregation and Composition Aggregation is a Container-Containee relationship  
Composition is a whole-part relationship
10. 09:30:40 No idea
11. 09:32:01 Category can be related to itself
12. 09:34:11 Not specified
13. 09:46:11 It is no longer an address book?

### **Teo Zi Hui, Shelia [TEO ZI HUI, SHELIA] (14 messages)**

Duration: 23 minutes [.....|. |...|.|.|.|.|.|.|.....]

1. 09:11:24 OK
2. 09:13:49 Solid line: association. Dashed line: dependency
3. 09:17:15 multiplicity
4. 09:18:58 A book can be borrowed by 0 or 1 student
5. 09:20:56 Association Label. Arrow head indicates the direction in which the label is to be read.
6. 09:23:20 Dashed arrow to show dependency
7. 09:25:36 Association classes denoted as a connection to an association link
8. 09:26:31 Hollow diamond: Aggregation. Solid diamond: Composition

9. 09:27:44 Hollow diamond: the smaller part can exist on its own even if the bigger part is destroyed (eg book can still exist without a category), but a chapter cannot exist without a book
10. 09:28:13 So for composition relationship the smaller part can't exist if the bigger part is destroyed
11. 09:30:29 Navigability of an association
12. 09:31:59 A category object has a reference to another category object.
13. 09:32:36 A category object is associated with and aware of another category object^^
14. 09:34:26 Visibility is unspecified

### **Zhao Zhihao [ZHAO ZHIHAO] (16 messages)**

Duration: 22 minutes [.....|.....|..|.|.|.||..|.|.|......]

1. 09:12:37 ok
2. 09:13:23 Dateline is implement, solid line is inheretence
3. 09:13:34 dotyed\*
4. 09:13:41 Dotted sry\*
5. 09:18:20 multiplicity\* sry slow finger
6. 09:18:47 A book can be borrowed by at most 1 students
7. 09:21:32 relation
8. 09:23:21 Its dependency not direct association
9. 09:25:06 Association class
10. 09:26:46 Hollow is contain, solid is components and parts
11. 09:26:57 Composition is the word sry
12. 09:27:06 Brain slow
13. 09:27:42 Category contains book, chapter is a part of book
14. 09:30:14 Navigability
15. 09:32:09 Category has reference to its method
16. 09:35:09 Unknown

### **Lau Heng Yi [LAU HENG YI] (17 messages)**

Duration: 23 minutes [.....|..|||..|||.|.|||..|.|.|||.....]

1. 09:11:49 ok
2. 09:14:29 Student inherits the abstract class person and implements the interface payee
3. 09:15:13 One is inheritance and one is implementation
4. 09:16:45 multiplicity
5. 09:19:04 Each book can be borrowed by 1 or more student
6. 09:20:52 label
7. 09:21:04 association
8. 09:23:13 dependency
9. 09:25:15 Association class
10. 09:26:32 composition
11. 09:26:53 aggregation
12. 09:27:19 Composition is part of a bigger whole, aggregation is the holder of the object
13. 09:30:15 navigability
14. 09:32:19 Category has reference to each other
15. 09:34:27 Not specified
16. 09:34:50 1
17. 09:35:02 unknoen

### **Yu Qian [YU QIAN] (18 messages)**

Duration: 23 minutes [.....|..|.|.|||.|.|||..|||.|.|||.....]

1. 09:11:20 ok
2. 09:14:31 the solid one is inheritance, and the other one is it implements an interface

3. 09:16:34 multiplicity
  4. 09:19:02 one student can borrow 0, 1, 2, 3, 4, 5 books, and a book can be borrowed by 0 or 1 students
  5. 09:19:19 a book can be borrowed by 0 or 1 students
  6. 09:20:48 name: association label
  7. 09:21:06 student borrows book
  8. 09:21:16 category is related to category
  9. 09:23:03 dependency
  10. 09:25:21 association class, it represents an association btw student and the book
  11. 09:26:43 solid: composition, the other: aggregation
  12. 09:27:02 composition: chapter is part of the book and if book is deleted chapter also needs to be deleted
  13. 09:27:31 aggregation: category is the container and book is the containee
  14. 09:30:12 navigability
  15. 09:31:50 one category has reference of category
  16. 09:32:42 bidirectional
  17. 09:34:26 not specified
  18. 09:34:30 no specified
- 

## T12-3,4 [tutor: Lin Chieh]

file: chat-log-euph00-[1].txt

### Yap Ming Sheng [YAP MING SHENG] (10 messages)

Duration: 24 minutes [.....|...|...|...|...|...|...|...|.....]

1. 12:09:50 interface and class?
2. 12:13:08 it can accommodate up to how many of the class its associated with
3. 12:14:55 only one or no student can borrow a book
4. 12:18:28 relationship
5. 12:18:33 between the two classes
6. 12:21:01 idk
7. 12:24:11 association class
8. 12:27:50 composition and aggregation
9. 12:31:13 navigate
10. 12:34:05 public?

### Nidhi Nandlal Patil [NIDHI NANDLAL PATIL] (10 messages)

Duration: 25 minutes [.....|...|...|...|...|...|...|...|.....]

1. 12:09:01 okay
2. 12:10:13 Dependent vs association??
3. 12:13:04 Multiplicity
4. 12:15:02 0-1 students can be associated with 0-5 books
5. 12:18:41 Association label. The triangle means the direction of the association?
6. 12:21:32 Not sure actually
7. 12:24:25 Loan is an association class. It stores the information abt the association between student and book
8. 12:28:08 Solid - composition Empty - aggregation
9. 12:31:27 Navigability of the association
10. 12:34:31 There isn't any operation there indicating the visibility

### Dong Haoyu [DONG HAOYU] (11 messages)

Duration: 25 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.....]

1. 12:08:58 ok
2. 12:10:03 Im not very sure
3. 12:13:28 Let me check the reference sheet 🤖
4. 12:15:10 Not very sure
5. 12:18:40 Relations?
6. 12:19:21 Not sure about the triangke
7. 12:21:27 Not directly related?
8. 12:24:19 Not sure
9. 12:28:20 Inheritance or contains?
10. 12:31:27 Not sure
11. 12:34:32 2 public

**Lim Zheng Feng [LIM ZHENG FENG] (11 messages)**

Duration: 24 minutes [.....|...| |...|..|..|..|...|. |.....]

1. 12:09:05 ok
2. 12:09:50 I am not sure
3. 12:13:35 Not sure if my last message sent but multiplicity
4. 12:14:49 A book has 0 to 1 students
5. 12:18:27 Association? Not sure
6. 12:21:11 Not sure
7. 12:24:10 Association class
8. 12:27:57 Composition and aggregation
9. 12:31:22 Not sure
10. 12:31:40 navigatibility
11. 12:33:58 unspecified

## Chen Xu [CHEN XU] (11 messages)

Duration: 25 minutes [.....|.|.|.|.|.|.|.|.|.|.|.....]

1. 12:08:27 ok
2. 12:10:05 i dont know
3. 12:13:37 multiplicity
4. 12:15:32 im not sure
5. 12:19:03 composition relation
6. 12:21:41 to show dependency relation
7. 12:24:11 association class
8. 12:28:10 aggregation
9. 12:28:22 and composition
10. 12:31:20 direction of dependency?
11. 12:34:07 not defined

**Popova Mariia [POPOVA MARIIA] (11 messages)**

Duration: 25 minutes [ ..... | | ... | . | .. | .. | .. | .. | | .. | .. | ..... ]

1. 12:08:52 OK
2. 12:09:59 interface is dotted, class is solid
3. 12:13:19 not sure
4. 12:15:07 student has jas 1 parent
5. 12:18:47 classes used inside other classes
6. 12:21:15 idk
7. 12:24:10 association class

8. 12:27:55 composition
9. 12:28:09 chapter is part of the book
10. 12:31:13 navigability
11. 12:34:05 public 1

### **Sankar Niharika [SANKAR NIHARIKA] (11 messages)**

Duration: 25 minutes [.....|..|.||..||..|...|..|.....]

1. 12:09:05 ok
2. 12:10:06 idk
3. 12:13:30 multiplicity
4. 12:15:32 optional the borrower can be linked to 1 or mor eobj
5. 12:18:18 association label
6. 12:19:17 the triangle is the arrow indicating direction
7. 12:21:18 dependency?
8. 12:24:23 association class
9. 12:28:14 aggregation composition
10. 12:31:21 navigatability
11. 12:34:31 unspecified

### **Low Khing Wei, Ryan [LOW KHING WEI, RYAN] (12 messages)**

Duration: 39 minutes [.....|..|.||..||..|...|..|.|.....]

1. 12:09:51 dont know
2. 12:12:59 multiplicity
3. 12:14:56 book borrowed by 0~1 student
4. 12:15:31 wait 0 to 1 student borrows book
5. 12:18:33 association label
6. 12:19:29 relationship from student to book
7. 12:21:17 dunno
8. 12:24:07 association class
9. 12:28:02 dunno
10. 12:31:17 association direction
11. 12:33:58 not defined
12. 12:49:29 bye

### **Yan Mingjun [YAN MINGJUN] (12 messages)**

Duration: 24 minutes [.....|...|...|..|..|...|..|.....]

1. 12:09:11 Ok
2. 12:09:52 Dotted and non dotted (Don't recall oops)
3. 12:13:05 index?
4. 12:14:47 Is the the number of instances?
5. 12:18:34 Pointing to which class its related to?
6. 12:21:17 Don't recall
7. 12:24:12 Definition for class?
8. 12:24:43 Association class?
9. 12:27:58 Aggregation?
10. 12:31:32 navigatability?
11. 12:31:42 navigability
12. 12:34:00 Should be private variables with public get methods?

### **Kumaraguru S/O Sreenivasan [KUMARAGURU S/O SREENIVASAN] (22 messages)**



Duration: 40 minutes [.....|.|.|.|...|.|.|||||||.|.|.|. ....|.....|]

1. 12:08:56 Ok
2. 12:10:08 The difference is Student implements Interface Payee but it extends abstract class Person
3. 12:12:54 Multiplicities
4. 12:14:56 1 Book instance can have 0 or 1 student as a borrower
5. 12:18:20 label?
6. 12:19:01 the triangle tells in which way the association goes
7. 12:21:24 Bec it means Chapter is a dependency in PreviewGenerator
8. 12:21:53 rather than a normal association
9. 12:23:02 so it means Chapter is a dependency of PreviewGenerator right
10. 12:24:00 Loan is an association class between Student and Book
11. 12:25:57 How do we know if there needs to be an association class?
12. 12:26:33 What if its not always clear?
13. 12:27:22 Yup thanks!
14. 12:28:03 unshaded - aggregation, shaded - composition
15. 12:29:58 why is there no multiplicity defined between Chapter and Book
16. 12:31:15 Navigability
17. 12:34:00 Not specified (no default visibilities)
18. 12:34:18 multiplicity also unspecified
19. 12:36:17 structure?
20. 12:41:37 1 to 3
21. 12:48:58 Will there not be a tele grp for this tutorial?
22. 12:49:45 Thanks!

## Lin Chieh (Tutor Lin Chieh)

- @e\_uph

### T13-3,4 [tutor: Lin Chieh]

file: chat-log-euph00-[2].txt

**Baizhou Cai [BAIZHOU CAI] (11 messages)**

**Duration:** 25 minutes [.....|..|.||..||..||...|.|.||.....]

1. 13:10:23 the dotted line means dependency and the solid line means association
2. 13:13:24 multiplicities
3. 13:15:24 A book can be borrowed by 0 or 1 student
4. 13:18:28 class roles. The triangle means direction
5. 13:21:14 Because It is not an association but a dependency
6. 13:24:28 One class needs to depend on the other, but it is not of any types of association
7. 13:25:38 Association class, they represents an association
8. 13:28:02 The unshaded one is composition the other is aggregation
9. 13:30:13 association direction
10. 13:32:39 A category can navigate to itself
11. 13:35:56 There is no default visibility and multiplicity

## Tan En Le Joshua [TAN EN LE JOSHUA] (12 messages)

Duration: 28 minutes [.....|.....|.....|.|.|.|.|.|.....]

1. 13:08:00 OK
2. 13:15:29 0..1 means 0 or 1, 0..5 means 0 to 5
3. 13:15:56 1..\* means 1 or many

4. 13:25:46 I'm not sure
5. 13:27:48 shaded means strong association unshaded means weak association
6. 13:30:32 field relationship
7. 13:32:31 bidirectional navigability
8. 13:33:05 so each field has references to each other
9. 13:33:18 or rather both fields have a reference for each other
10. 13:36:00 default visibility
11. 13:36:20 1..1
12. 13:36:22 for chapter

### **Wang Zimeng [WANG ZIMENG] (12 messages)**

Duration: 25 minutes [.....|..|. |.....|. |.|. |.. |...|.....]

1. 13:10:53 Student implements Payee and inherits Person
2. 13:13:42 Multiplicity
3. 13:15:55 A book can be borrowed by 0 or at most 1 borrower
4. 13:21:19 It's dependency
5. 13:21:55 No direct association, only when it is called.
6. 13:23:53 Hi I'm in the classroom indicated on the NUS mods and some ppl here are not in zoom, should I remind them?
7. 13:24:19 Like some ppl here may not know its on zoom
8. 13:26:04 Not sure
9. 13:27:48 Shaded is composition, unshaded is aggregation
10. 13:30:10 Navigability
11. 13:31:14 Category can reference to category and book
12. 13:35:57 Undetermined, there is no default value

### **Nicholas Oh Jia Jun [NICHOLAS OH JIA JUN] (13 messages)**

Duration: 26 minutes [.....|...|. |..|. |...|. |..|. |...|.....]

1. 13:09:30 dotted is implementing an interface. full line represents extending a parent class
2. 13:13:25 multiplicity
3. 13:15:13 minimum limit 0 maximum limit 1
4. 13:15:34 each book is borrowed by 0 or 1 student
5. 13:18:24 association direction
6. 13:18:53 shows the direction of the association
7. 13:21:22 previewgenerator depends on chapter
8. 13:25:41 dependency class
9. 13:27:40 composition for shaded aggregation for unshaded
10. 13:30:14 association direction
11. 13:32:38 a category is related to another category. that category is also related to the first
12. 13:36:05 public
13. 13:36:15 no limit to multiplicity

### **Tan Guan Zhong [TAN GUAN ZHONG] (13 messages)**

Duration: 28 minutes [.....|. |...|. |..|. |...|. |..|. |...|.....]

1. 13:07:54 okkokok
2. 13:09:28 i only know the solid line is an association line
3. 13:13:26 multiplicity
4. 13:15:27 All books can only associate to one student
5. 13:15:37 or none
6. 13:18:34 direction of association?
7. 13:18:51 and association label

8. 13:21:21 dependency
9. 13:25:40 association class
10. 13:27:52 idk
11. 13:30:48 navigability
12. 13:32:57 it is a recursive reference, so it can navigate to itself?
13. 13:36:14 idk

**Xavier Lee Hong Ming [XAVIER LEE HONG MING] (15 messages)**

Duration: 40 minutes [.....|.|.||.|||..|.||..|.||...|.....|]

1. 13:08:06 Ok
2. 13:10:05 Student class implements the Payee interface and extends the Person superclass
3. 13:13:49 Multiplicity
4. 13:15:36 A book can be borrowed by 0 or 1 student
5. 13:18:51 Association
6. 13:19:14 label
7. 13:21:24 Dashed lines indicates a dependency?
8. 13:22:02 PreviewGenerator class depends on Chapter class
9. 13:25:27 Association class
10. 13:25:45 Additional information about an association
11. 13:27:51 Aggregation is the unshaded one and Composition is the shaded one
12. 13:30:17 Navigability
13. 13:32:50 A category is related to itself?
14. 13:36:21 Multiply chapters?
15. 13:49:04 Thank you

**Charles Lim Jun Wei [CHARLES LIM JUN WEI] (15 messages)**

Duration: 41 minutes [ . . . . . | . | . . | | . . . | . . | . . | . | . . | . | . . . | . . . . . . . . . . | ]

1. 13:08:02 ok
2. 13:10:14 the yellow line is a dependency relationship
3. 13:10:46 the student class depends on payee interface
4. 13:13:57 the cardinality
5. 13:14:12 multiplicity
6. 13:15:31 Student can borrow 0 or 1 book
7. 13:15:54 and a book can be borrowed to 0 to 5 students at the same time
8. 13:19:21 not sure
9. 13:22:04 a weaker dependency
10. 13:25:31 association class for student and book
11. 13:27:56 composition and aggregation
12. 13:30:53 not sure
13. 13:32:50 not sure
14. 13:36:21 not sure
15. 13:49:06 ty

**Yan Andong [YAN ANDONG] (15 messages)**

Duration: 33 minutes [.....|.|...| |..|..|....|.||.|..|..|....|.....]

1. 13:08:32 ok
2. 13:10:24 Idk...
3. 13:14:03 association
4. 13:15:29 Each student can borrow 0-1 book
5. 13:18:48 Association labels direction
6. 13:21:55 idkk

7. 13:25:37 Association class
8. 13:25:59 Represents the action of loaing
9. 13:27:46 Shaded: composition (whole-part)
10. 13:28:00 Unshaded: aggregation (contain-contained)
11. 13:30:19 navigability
12. 13:33:11 Self-referencing?
13. 13:33:13 idk
14. 13:36:15 Package private unspecified
15. 13:41:40 1-3

## **Tiew Jia Liang [TIEW JIA LIANG] (16 messages)**

Duration: 41 minutes [.....|.||..|.||..|.||..|.||..|.||..|.||..|.....]

1. 13:07:53 ok
2. 13:09:03 Student implement Payee interface and Person abstract class
3. 13:10:39 Joshua ask me to tell u he disconnected
4. 13:13:43 multiplicities?
5. 13:15:13 A Book can be borrowed by 0 to 1 Student
6. 13:18:31 Association
7. 13:19:13 The triangle means there is a method?
8. 13:21:37 extends?
9. 13:22:01 it depends on chapter?
10. 13:25:52 association class, it means when this action is done, it will create a new object of that class
11. 13:27:59 hollow diamond is aggregation (contains) while shaded is composition
12. 13:30:18 'has a ' relationship?
13. 13:30:50 navigability
14. 13:32:35 Category is related to category
15. 13:35:53 protected, multiple chapter
16. 13:49:01 thank you

## **Xiao Ao [XIAO AO] (21 messages)**

Duration: 32 minutes [.....|...|...|...|...|...|...|...|...|...|...|.....]

1. 13:07:58 hi
2. 13:08:04 ok
3. 13:09:14 class student implement interface payee class student extends abstract class person
4. 13:10:21 one for extends, one for implement
5. 13:10:24 ?
6. 13:10:29 (idk)
7. 13:13:42 0 to 1, 0 to 5
8. 13:14:05 i forget the name huh
9. 13:15:38 Each book can be borrowed by 0 or 1 student
10. 13:18:45 association lebel?
11. 13:18:50 label
12. 13:19:27 triangle is the direction
13. 13:21:18 dependency?
14. 13:25:32 borrows association between student and Book
15. 13:25:43 Loan is an association class
16. 13:27:47 Composition (shaded) aggregation(unshaded)
17. 13:30:18 navigability
18. 13:33:17 realated to?
19. 13:36:06 public and idk
20. 13:38:29 Hi ta, i'm heading to the toilet(will be back asap)
21. 13:40:31 im back

## Lin Chieh (Tutor Lin Chieh)

- @e\_u<sub>ph</sub>

## T16-1,2 [tutor: Linkes]

file: chat-log-LinkesV-[1].txt

### He Haorui [HE HAORUI] (6 messages -- low participation)

Duration: 7 minutes [.....| |. |..| |.....]

1. 16:11:45 Dash line: implement, concrete line: extend
2. 16:12:52 Multiplicity
3. 16:14:09 X to Y objects take part in interaction
4. 16:14:53 interaction?
5. 16:17:57 association class
6. 16:18:47 Composition

**Lee Jia Wei [LEE JIA WEI] (9 messages)**

Duration: 12 minutes [.....|.|||.|||.....]

1. 16:12:07 non-dotted lines shows inheritance. Dotted lines shows implementing
2. 16:12:55 Multiplicity
3. 16:14:06 number of objects that take part in each association
4. 16:15:01 direction to read
5. 16:17:44 association class
6. 16:19:22 hollowed represents aggregation which is a container-contained relationship Category contains books. Filled is composition
7. 16:20:28 navigability
8. 16:21:59 It is reference both ways
9. 16:25:00 shows an object structure at a given point of time

**Yap Jun Yeu [YAP JUN YEUE] (11 messages)**

Duration: 22 minutes [ ..... ||||. |||. |. .... | ..... ]

1. 16:11:36 dotted is implement dash is inherit
2. 16:12:44 multiplicity
3. 16:13:38 a book can have either 0 or 1 student as the borrower
4. 16:14:44 association
5. 16:16:20 it is a association class
6. 16:17:40 it is a association class
7. 16:18:51 hollow diamond is aggregation filled diamond is composition
8. 16:20:25 direction
9. 16:21:29 category can be associated with another category
10. 16:23:17 undefined undefined
11. 16:34:22 thank you

**Lee Hai Hui [LEE HAI HUI] (13 messages)**

Duration: 15 minutes [.....|...|...|...|...|...|.....]

1. 16:10:55 ok

2. 16:11:44 dashed line shows dependencies, solid line shows association
3. 16:12:40 multiplicity
4. 16:13:48 book can be borrowed by 0 or 1 student
5. 16:14:52 label, triangle represents direction to read label in
6. 16:16:34 because the previewgenerator class depends on the chapter class
7. 16:18:03 association class, loan class stores information about association between student and book
8. 16:19:36 filled: composition, when book object is destroyed, associated chapter object will be destroyed as well non-filled: aggregation, when category object is destroyed, associated book objects can still exist
9. 16:20:21 navigability
10. 16:22:05 a category object that refers to another category object will have a reference in the other object
11. 16:23:08 unspecified visibility
12. 16:23:22 unspecified multiplicity
13. 16:26:38 they contain references to each other

### **Michael Cheong Li Fan [MICHAEL CHEONG LI FAN] (13 messages)**

Duration: 18 minutes [.....|.|.|.|.|.|.|.|.|.|.....|.....]

1. 16:10:35 OK
2. 16:11:35 I think dependency vs association maybe
3. 16:12:33 multiplicity
4. 16:13:25 either 0 or 1 (students per book)
5. 16:14:39 label and direction of the label (student borrows book)
6. 16:16:03 dependency
7. 16:17:33 association class (stores information about the association between student and book)
8. 16:18:42 aggregation and composition
9. 16:20:35 navigability
10. 16:21:37 each category has a bidirectional navigable association with another category (?)
11. 16:23:02 unspecified multiplicity
12. 16:23:19 unspecified visibility
13. 16:29:06 Broad target user and poor grammar

### **Tan Xing Zhong [TAN XING ZHONG] (17 messages)**

Duration: 19 minutes [.....|.|.|.|.|.|.|.|.|.....|.....]

1. 16:11:02 ok
2. 16:12:21 dashed line mean there is inheirate interface solid line assoication
3. 16:12:37 mutiplicity
4. 16:13:30 book can be owned by 0 or 1 student
5. 16:13:50 borrowed\*
6. 16:15:02 labels means student borrow book
7. 16:16:11 it represent dependenices
8. 16:17:37 associtation class
9. 16:18:00 it means loan stores the student and book
10. 16:18:45 filled is composition none filled is aggregation
11. 16:19:23 composition means when book is destroyed chapter is gone aggregation that category is gone book can still eist
12. 16:20:23 arrow means navigability
13. 16:20:50 shows that A has a reference to B
14. 16:22:06 it means category A has reference to category B and the other way round
15. 16:23:34 unknown
16. 16:24:37 Object
17. 16:30:25 target audience is too broad and its being online

## **V Varsha [V VARSHA] (17 messages)**

Duration: 22 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.....]

1. 16:11:43 dashed arrows is to show dependencies
2. 16:12:37 multiplicities
3. 16:13:43 student can borrow 0 or 1 book(s)
4. 16:14:45 navigatability
5. 16:15:02 triangle means unidirection
6. 16:16:10 represents dependencies
7. 16:17:57 association classes
8. 16:18:57 hollow diamond is aggregation
9. 16:19:16 filled diamond is composition
10. 16:20:18 navigability
11. 16:21:48 the objects will be pointing to each other for the same single instance of the association
12. 16:23:03 unknown
13. 16:23:26 0..1?
14. 16:29:03 target user is too broad
15. 16:30:59 clicking is not cli friendly
16. 16:33:41 will the slides be made available?
17. 16:33:53 okay thank u!

## **Javen Tan Kang Le [JAVEN TAN KANG LE] (18 messages)**

Duration: 13 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.....]

1. 16:11:30 association and inheritance
2. 16:12:43 multiplicity
3. 16:13:26 either 0 or 1
4. 16:13:54 book 0 or 1 student
5. 16:14:41 association
6. 16:15:00 attribute
7. 16:16:24 dependencies
8. 16:17:52 association class
9. 16:17:53 implement
10. 16:18:00 association class
11. 16:18:35 composition
12. 16:18:50 aggregation
13. 16:20:24 label
14. 16:20:40 navigability
15. 16:21:29 one category can be related to another category and that category can be related to the same category
16. 16:23:15 public
17. 16:23:26 undefined
18. 16:25:12 An object diagram shows an object structure at a given point of time.

## **Sim Ray En Ryan [SIM RAY EN RYAN] (20 messages)**

Duration: 24 minutes [....|.....|.|.|.|.|.|.|.|.|.|.|.|.|.....]

1. 16:04:17 Sorry, I don't have a camera attached
2. 16:04:27 ok!
3. 16:10:54 OK
4. 16:11:32 Dash is for interface,
5. 16:11:39 Full is for inheritance
6. 16:12:58 Its the amount of parameters they can accept, forgot the real term (Edit: Multiplicity)
7. 16:13:40 Book can have 1 student borrowing it or 0 students borrowing it

8. 16:14:57 Class label, indicate direction
9. 16:15:04 Association
10. 16:16:08 Weaker composition? Edit: Dependency
11. 16:17:51 Association Class. The relation between Student and Book is governed by the Loan class
12. 16:18:48 Composition for filled and Aggregation for hollow
13. 16:19:02 Category contains 1 or more books
14. 16:19:12 Books MUST contain chapter (Edit because chapter is a part of the Book)
15. 16:20:16 Navigatability
16. 16:21:28 Category has referecnes to another category and vice versa (they know each other exist)
17. 16:23:00 Visibility not specified, Multiplicity not specifed
18. 16:25:13 Represents the actual program (edit at a specific point of time)
19. 16:27:27 1-3
20. 16:29:16 How does student know it has 1-3 Teams if it does not have a reference to team? Is this handled by Team itself (maybe by checking a var "numOfTeams")

### **Tan Guan Qun [TAN GUAN QUN] (24 messages)**

Duration: 15 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.....]

1. 16:10:56 OK
2. 16:11:42 dotted lines mean there is some dependency, while solid is association
3. 16:12:38 multiplicity
4. 16:13:46 how they are associated, i.e. how many categories a book has
5. 16:14:43 label
6. 16:15:01 and the direction to read
7. 16:16:09 dependency, but does not maintain long term association
8. 16:16:19 or smth like that
9. 16:17:44 association class
10. 16:17:50 to hold some fields for an association
11. 16:17:52 between two classes
12. 16:18:57 aggregation - it means that category contains book, but book can live independently
13. 16:19:11 container
14. 16:20:18 navigatability
15. 16:20:27 shows direction of like who keeps track of who
16. 16:20:29 in their association
17. 16:20:36 navigability\*
18. 16:21:25 it means it has an association to objects of it own class
19. 16:23:03 not stated means its not important?
20. 16:23:21 i dont rmb there being a default multiplicity or visibility
21. 16:24:34 object
22. 16:24:51 objects?
23. 16:24:55 and their references
24. 16:26:08 children fiction book

### **Krishnan Linkes Varun (Tutor Linkes)**

- Yes prof I am sharing my screen
- Ok prof

### **T15-3,4 [tutor: Marcus]**

file: chat-log-HollaG-[1].txt

### **Cheong Rui Feng [CHEONG RUI FENG] (8 messages)**



Duration: 12 minutes [.....|.|..|..|.|.|.....]

1. 15:17:18 its an attribute under student that tracks book
2. 15:19:16 dependency
3. 15:20:55 association class
4. 15:23:36 hollow means container, filled means part of. Diamond side means that is the container(for hollow), or the whole(for filled)
5. 15:26:10 which can track what
6. 15:26:36 association
7. 15:28:23 category points to itself, one object references another
8. 15:30:17 public, any amount

**Guo Fengming [GUO FENGMING] (11 messages)**

Duration: 29 minutes [.....|....|. .|. |.|..|....|...||.|.|.....]

1. 15:13:22 role
2. 15:18:57 dependency
3. 15:21:22 Association class
4. 15:23:19 Solid: composition, the other is aggregation
5. 15:25:49 Navigability
6. 15:28:15 Category navigate itself
7. 15:33:13 Class diagram
8. 15:37:32 B1 is fiction and b2 is both fiction and children
9. 15:38:59 B2 has two chapters: c1 and c2
10. 15:40:37 These two category are reference to each other
11. 15:42:36 1 to 3

**Lim Jing Quan, Aaron [LIM JING QUAN AARON] (14 messages)**

**Duration:** 34 minutes [.....|.||...|.|||.|.|.|.|.|.|.|.....|.....]

1. 15:07:51 ok
2. 15:09:56 dashed arrow is dependencies
3. 15:10:25 solid is inheritance
4. 15:14:30 means each book is borrowed by 0 to 1 students
5. 15:16:45 association label
6. 15:17:25 triangle points to target
7. 15:19:34 dependencies
8. 15:21:11 is an association class
9. 15:23:23 solid diamond means composition
10. 15:23:56 hollow diamond is aggregation
11. 15:26:12 it denotes the navigability
12. 15:28:22 means a category can be related to another category
13. 15:33:33 object
14. 15:42:36 between 1 and 3

**Ho Jun Da Wilson [HO JUN DA WILSON] (16 messages)**

Duration: 40 minutes [ ..... | .. | | . | . | | . | .. | . | .. | . | ..... | . ]

1. 15:07:50 ok
2. 15:10:05 Inherits from Person, implements Payee
3. 15:11:19 Replying to "where can we find the uml reference sheet": canvas
4. 15:12:11 multiplicity
5. 15:14:29 books can be borrowed by either 0 or 1 Student
6. 15:16:39 association labels

7. 15:17:25 direction the label is meant to be read
8. 15:18:54 dependencies vs association
9. 15:20:45 association class
10. 15:20:58 additional info about association
11. 15:23:06 composition: strong whole-part relationship aggregation: weak
12. 15:25:42 navigability of association
13. 15:28:09 bidirectional
14. 15:28:30 both have references to each other
15. 15:30:24 unspecified
16. 15:48:38 ty

### **Dai Jinghong, Nicholas [DAI JINGHONG, NICHOLAS] (17 messages)**

Duration: 47 minutes [|.....|. |..|. |..|. |..|. |..|. |..|. |..|. |.....|. |.....|. |]

1. 15:00:40 yes
2. 15:00:49 yea can see
3. 15:07:56 ok
4. 15:09:19 Student class extends Person class Student class implements Payee interface
5. 15:12:29 Each student can borrow 0-5 books, each book can be borrowed by 0-1 person
6. 15:12:45 multiplicity?
7. 15:14:14 each book can be borrowed by 0-1 person
8. 15:17:06 labels?
9. 15:19:16 its a dependency
10. 15:20:39 association class
11. 15:22:57 hollow one is aggregation, solid one is composition
12. 15:25:53 navigability
13. 15:28:35 category related to other category
14. 15:31:08 unspecified, not decided
15. 15:40:28 both categories hold reference to each other
16. 15:42:28 1 to 3
17. 15:48:35 thank u

### **Chuah Zi Yang [CHUAH ZI YANG] (18 messages)**

Duration: 40 minutes [|....|. |..|. |..|. |..|. |..|. |..|. |..|. |..|. |.....|. |.....|. |]

1. 15:04:15 i no camera sorry
2. 15:04:18 no webcam
3. 15:07:43 OK
4. 15:09:12 implements vs inherits
5. 15:13:08 idk
6. 15:13:35 enumeration
7. 15:14:26 either 0 or 1 student involved in the relationship
8. 15:17:03 relationship
9. 15:17:12 association label
10. 15:18:59 dependency
11. 15:20:40 association class
12. 15:23:02 idk
13. 15:26:25 generics
14. 15:26:46 navigability
15. 15:28:51 self reference
16. 15:30:15 public, 1 to 1
17. 15:42:33 3
18. 15:44:58 no

### **Audri Shishir Sen [AUDRI SHISHIR SEN] (20 messages)**

Duration: 48 minutes [ | . . . . | | . . | | . | . | . . | . | . | . . | . | . | | . . . | . . . . | . . | . . | . ]

1. 15:00:07 hi marcus, would it be possible to talk through the chat later? i'm at a library right now
2. 15:05:11 hi i'm shishir, a y2 cs student. i'm an international student from bangladesh but i have been studying in singapore for many yrs so ppl say i speak like a singaporean.
3. 15:06:56 OK
4. 15:09:22 solid line means inherits (in the direction of the arrow), while the dashed line means implements
5. 15:10:38 where can we find the uml reference sheet
6. 15:12:39 multiplicity, so how many objects take part in each association
7. 15:14:38 It means each book can either have or not have a student for it. So 0 or 1 objects associated with it
8. 15:17:02 Association label. The triangle gives the direction in which the label should be read
9. 15:19:19 It means a dependency. previewgenerator can depend on chapter without being directly associated with it
10. 15:21:13 its an association class, as it provides additional information about association of the two classes
11. 15:23:42 Solid diamond is composition, while hollow is aggregation. Composition has a part of relationship, so chapter is part of a book. Aggregation has a container-containee relationship
12. 15:26:07 navigability
13. 15:28:24 Inside category, there is a variable with type category?
14. 15:30:33 Both visibility and multiplicity is unspecified as there is no default for both
15. 15:32:58 object
16. 15:33:24 object?
17. 15:37:45 Book b1 contains fiction as a category, and Book b2 contains children as a category?
18. 15:42:30 1 to 3
19. 15:45:11 Target user is too generic?
20. 15:48:31 ok thanks!

## **Chin Jung Hwan [CHIN JUNG HWAN] (22 messages)**

Duration: 40 minutes [ . . . . . . . | | | . . | . | | | . | . | | . | . | | . | | . . . . . . . . . . | . ]

1. 15:08:19 ok
2. 15:09:19 Dash is dependency
3. 15:09:45 It also means interface
4. 15:10:30 Straight is associations
5. 15:13:01 Lol idk Enumeration xD
6. 15:15:33 0 or 1 student
7. 15:16:55 functions
8. 15:17:24 Actions idk
9. 15:19:09 Implements interface
10. 15:21:02 Association class
11. 15:22:49 composition
12. 15:23:03 Hollow is aggregation
13. 15:23:14 Filled is composition
14. 15:25:45 Use arrowheads to indicate the navigability of an association.
15. 15:28:41 Not abstract
16. 15:28:50 Can instantiate objects
17. 15:30:29 unspecified
18. 15:31:01 1
19. 15:33:02 class
20. 15:33:26 class
21. 15:34:31 associations
22. 15:48:25 thanks

## **Soh Zheng Yang, Marcus (Tutor Marcus)**

1. 16:07:15 ok
2. 16:08:35 solid indicates extends, dotted indicates implements
3. 16:11:40 multiplicity
4. 16:13:22 a book can be borrowed by either 0 or 1 students
5. 16:15:20 association label
6. 16:15:54 triangle indicates direction of association, in this case borrows > means student borrows book
7. 16:19:06 dashed arrow indicates a dependency relationship
8. 16:21:48 association class, it represents additional information about an association
9. 16:23:58 solid denotes composition, hollow denotes aggregation
10. 16:26:48 navigability
11. 16:29:24 category has a reference to itself
12. 16:31:41 visibility of loan attributes are unspecified
13. 16:32:28 unspecified for chapter as well

**Joselyn Chan Yieng Yi [JOSELYN CHAN YIENG YI] (13 messages)**

Duration: 24 minutes [.....| |..|.|.|. .|.|.|.|.|.|.|. .|.|.|.|.|.|.|. .|.|.|.|.|.|.|. .|.|.|.|.|.|.|.]

1. 16:07:18 OK
2. 16:08:35 underlined line is for implementation, and solid line is for inheritance
3. 16:11:36 multiplicity
4. 16:13:21 optional, can be linked to 0 or 1 objects
5. 16:15:24 label,
6. 16:15:53 the direction in which the label is to be read
7. 16:19:08 here means 'preview generator' has a dependency towards 'chapter'
8. 16:21:38 association class, connections between objects
9. 16:23:59 composition, chapter is a part of book
10. 16:26:53 navigability?
11. 16:29:06 bidirectional
12. 16:31:19 private
13. 16:31:50 zero or more

**Ng Yin Zi [NG YIN ZI] (14 messages)**

Duration: 24 minutes [ ..... | . | .. | | . | | .. | . | .. | .. | .. | | | ..... ]

1. 16:07:36 OK
2. 16:09:00 solid rep. extends, dotted rep. implements
3. 16:12:16 multiplicities
4. 16:13:13 a student may borrow at most one book
5. 16:15:45 it is a dependency
6. 16:16:07 the black filled triangle represents directed association
7. 16:19:09 dependency rather than permanent association
8. 16:21:42 composition
9. 16:24:01 solid diamond is composition and represents a strong relationship
10. 16:24:21 empty diamond represents aggregation (loosely associated)
11. 16:27:13 navigability
12. 16:30:21 reference to one another
13. 16:31:58 default visibility
14. 16:32:23 unknown multiplicity

**Harish S/O Balamurugan [HARISH S/O BALAMURUGAN] (15 messages)**

**Duration:** 24 minutes [.....|..|.|.|.|.|.|.|.|.|.|.|.].

1. 16:07:12 OK
2. 16:08:44 The dashed arrow represents a class implementing an interface (inheritance via interface) while a solid arrow represents a class extending a class (in this case an abstract class)
3. 16:11:31 Multiplicity
4. 16:13:27 It is optional for a Book to be borrowed by a Student (i.e., it can be borrowed by 0 or 1 Student)
5. 16:15:13 association label
6. 16:15:56 The triangle refers to the direction in which you read the label
7. 16:18:44 It is a transient (transparent or soft) dependency
8. 16:19:12 It is a transient (temporary or soft) dependency
9. 16:21:21 Association Class - It stores properties about an association
10. 16:21:39 In this case, it stores the properties of the 'borrows' relation
11. 16:24:00 Solid diamond: Composition - represents a whole-part (stronger) association, Hollow diamond: Aggregation - represents a container-containee (not so strong) association
12. 16:26:28 navigability
13. 16:26:55 navigability

- Tan Cheng Yong Enzo [TAN CHENG YONG, ENZO] (16 messages)**

6. 16:09:35 Other is for class
7. 16:12:18 That is the possible values
8. 16:12:26 Of a given attribute / operation
9. 16:13:14 The multiplicity represents that it can have 0 or 1 objects associated
10. 16:13:44 Either a single object or null
11. 16:15:29 Association label
12. 16:15:41 The ones with triangle are called association label
13. 16:15:54 And its read in the direction of the triangle
14. 16:18:57 Its a use case
15. 16:19:14 Preview generator includes chapter
16. 16:21:27 It is an association class
17. 16:21:48 It represents additional information
18. 16:21:57 About an association
19. 16:23:49 Solid diamond -> Composition, used to describe a has-a relationship
20. 16:24:22 Hollow Diamond -> Aggregation , used to describe a relationship weaker than composition  
eg. A method taking in a class but not Storing it in the other class
21. 16:26:57 navigability
22. 16:29:27 Category has a category?
23. 16:29:58 You can travel both ways
24. 16:31:24 The multiplicity of the chapter is unspecefied
25. 16:31:27 It can have many chapters
26. 16:32:18 oh

file: chat-log-tayruxin-[1].txt

**Thum Kei Kuan [THUM KEI KUAN] (8 messages)**

1. 09:12:22 ok
2. 09:13:10 generic class
3. 09:15:00 not sure
4. 09:15:57 the amount of instances
5. 09:19:40 not sure
6. 09:22:27 composition?
7. 09:24:00 direct association?
8. 09:26:51 not specified

Duration: 13 minutes [ ..... | . | | | . | | . | . | . | ..... ]

1. 09:13:24 I think, one is use for interface, one is use for abstract class
2. 09:15:10 it kind of number of link that this student instance must link to book and vice versa
3. 09:16:03 0..1 mean that student should link to 0 or 1 instance of book
4. 09:17:25 I don't remember ..
5. 09:19:46 association class,,,
6. 09:20:35 association
7. 09:22:15 Aggregation
8. 09:22:38 Composition
9. 09:24:16 inhehitances
10. 09:26:48 don't have ?

## **Pun Yik Hong [PUN YIK HONG] (11 messages)**

Duration: 14 minutes [.....|.|.|.|.|.|.|.....]

1. 09:12:23 ok
2. 09:13:13 Student is a Person Student implements Payee
3. 09:14:42 not sure what the numbers are
4. 09:16:27 dictates how many objects take part in the association
5. 09:18:06 A Student can borrow a Book Some field of category is related to another field of category
6. 09:19:45 Preview Generator acts on a Chapter to generate a preview
7. 09:20:47 A student can loan a book. This is represented by a Loan object
8. 09:22:37 Book is a category Book has Chapters
9. 09:23:57 navigability
10. 09:25:23 bidirectional navigability
11. 09:26:40 visible, 1..1

## **Ashe Low [Ashe Low] (11 messages)**

Duration: 13 minutes [.....|.|.|.|.|.|.|.....]

1. 09:12:25 ok
2. 09:13:57 solid stores reference, dashed just implies dependency
3. 09:15:20 multiplicity
4. 09:15:59 every book may have between 0-1 students who are borrowing it
5. 09:16:09 (inclusive)
6. 09:18:08 association label
7. 09:18:18 triangle shows the direction of the relationship
8. 09:20:00 preview generator has a dependency on chapter, but doesn't store a chapter
9. 09:21:06 association class
10. 09:23:59 navigability
11. 09:25:35 relationship is bidirectional

## **Abigail Ke [Abigail Ke] (12 messages)**

Duration: 13 minutes [.....|.|.|.|.|.|.|.....]

1. 09:12:22 ok
2. 09:13:04 Inheriting from a class vs implementing an interface
3. 09:14:28 multiplicity
4. 09:15:55 Number of students who are borrowers of a book
5. 09:19:52 Indirect dependency?
6. 09:20:36 Association class
7. 09:21:56 Composition
8. 09:22:13 Filled: part of Not filled: contains
9. 09:23:55 Accessor?
10. 09:24:09 I don't remember the name but I vaguely remember what it does
11. 09:25:06 Categories are related to and hold references to other categories
12. 09:26:21 unspecified

## **Mervyn Teo Zi Yan [MERVYN TEO ZI YAN] (13 messages)**

Duration: 14 minutes [.....|.|.|.|.|.|.|.....]

1. 09:12:23 ok
2. 09:13:28 abstract and non abstract
3. 09:14:53 multiplicity
4. 09:15:54 means either it exist or it doesnt



5. 09:18:14 association label, it indicates the direction label is read
6. 09:19:52 it is to show its dependency
7. 09:20:42 associate class
8. 09:22:10 aggregation
9. 09:22:31 it represents a container-contains relationship
10. 09:24:20 navigability of association
11. 09:24:59 bidirectional navigability
12. 09:26:40 private
13. 09:26:52 1

### **Lim Shao Qi [LIM SHAO QI] (14 messages)**

Duration: 13 minutes [.....|.|.|.|.|.|.|.|.....]

1. 09:12:30 ok
2. 09:13:01 Implement vs inherit
3. 09:14:30 multiplicity
4. 09:15:49 At most 1
5. 09:16:14 There can be at most 1 student borrowing a book
6. 09:17:49 Direction of the label to be read
7. 09:19:29 To show dependencies not associations
8. 09:20:44 Association class
9. 09:20:52 To provide more info on the association
10. 09:22:09 Aggregation and composition
11. 09:22:32 Container-containee and whole-part relationship
12. 09:23:39 navigability
13. 09:25:06 bidirectional
14. 09:26:15 unspecified

### **Sue Zheng Long [SUE ZHENG LONG] (15 messages)**

Duration: 22 minutes [.....|.|.|.|.|.|.|.|.....|.....]

1. 09:12:24 Ok
2. 09:13:06 inherit for the bolded line and implement for the dotted lines
3. 09:15:00 multiplicity
4. 09:16:12 A book can have 0-1 borrower, student. A student, borrower can borrow 0-5 books
5. 09:17:32 association label
6. 09:17:49 so students borrows book
7. 09:19:31 It is a dependency
8. 09:19:45 the preview generator depend on the chapter
9. 09:19:52 for the getPreview?
10. 09:21:45 nope
11. 09:22:15 compositions and aggregations
12. 09:25:19 categories are related to each other?
13. 09:26:38 cant tell?
14. 09:27:05 since it is not explicitly stated with +, - or numbers given?
15. 09:34:52 nope

### **Dang Hoang Duy [DANG HOANG DUY] (17 messages)**

Duration: 13 minutes [.....|.|.|.|.|.|.|.|.....]

1. 09:12:33 ok
2. 09:12:52 inherits vs implements
3. 09:13:04 dash line is for implementing an interface
4. 09:14:42 multiplicities?

5. 09:15:51 0..1 means there can be 0 or 1 student associated to 1 book
  6. 09:17:16 label
  7. 09:17:37 the triangle tells you the direction to interpret correctly
  8. 09:19:16 represent dependencies
  9. 09:19:40 but not association
  10. 09:20:24 association class
  11. 09:20:38 used to represent association between two other classes
  12. 09:21:58 composite and aggregation association
  13. 09:22:07 whole part vs container-containee
  14. 09:22:21 hollow diamond for aggregation
  15. 09:23:41 navigability
  16. 09:24:58 bidirection
  17. 09:26:27 unknown
- 

## T14-3,4 [tutor: Ryan]

file: chat-log-RyanNgWH-[1].txt

### Wang Haitao [WANG HAITAO] (7 messages -- low participation)

Duration: 8 minutes [.....|.|||.|.||.....]

1. 14:25:51 Aggregation
2. 14:27:00 composition
3. 14:28:25 dependency arrow
4. 14:29:28 correction: Navigability
5. 14:31:09 Class category is related to itself
6. 14:33:16 Visibility: unspecified
7. 14:34:24 Multiplicity: unspecified too

### Li Simeng [LI SIMENG] (9 messages)

Duration: 16 minutes [.....|..||.||..||.|.|.|.....]

1. 14:17:07 multiplicity
2. 14:17:44 One book can be borrowed by at most one student
3. 14:20:15 annotation, meaning a student borrows a book
4. 14:21:52 Dependency, meaning the code of preview generator depends on the code of chapter
5. 14:23:35 association, elaborating on the association between book and student objects
6. 14:26:38 Solid diamond means whole-part relationship and empty diamond means "contains" relationship
7. 14:29:06 it is the direction of association, navigability
8. 14:31:24 a category can be related to another category and the association is bidirectional
9. 14:33:16 The visibility is not specified, multiplicity also not specified

### Xu Junheng Marcus [XU JUNHENG MARCUS] (10 messages)

Duration: 21 minutes [.....|...||.|.|.|.|.|.|.|.|.....]

1. 14:12:55 OK
2. 14:16:20 Multiplicity
3. 14:17:27 How many of the instance as member
4. 14:19:38 Association?
5. 14:21:35 Dependency not association
6. 14:23:24 Association class
7. 14:28:25 Navigable?

8. 14:30:58 Visible?
9. 14:33:49 Unspecified
10. 14:34:45 0 to infy?

### **Dallas Lim Juin Loon [DALLAS LIM JUIN LOON] (10 messages)**

Duration: 20 minutes [.....|..|.||..|.||..|.||..|.||.....]

1. 14:13:52 solid is inheritance, dotted is implements
2. 14:16:16 multiplicity
3. 14:18:10 There can be 0 or 1 student for each book
4. 14:19:23 Label and its direction to read
5. 14:22:07 It is a dependency
6. 14:23:27 Association class, it stores information about the association
7. 14:26:03 Filled, composition, empty, aggregation
8. 14:28:36 Navigability
9. 14:31:12 Categories are aware of other categories
10. 14:34:39 unspecified visibility, any multiplicity

### **Shinezul Bilguudei [SHINEZUL BILGUUDEI] (11 messages)**

Duration: 21 minutes [.....|..|.||..|.||..|.||..|.||.....]

1. 14:12:47 ok
2. 14:13:40 Dependency, and inheritance?
3. 14:16:14 Something multiplicity
4. 14:17:59 How many students the book is borrowed, which is either 0 or 1
5. 14:19:28 borrows
6. 14:21:27 Dependency?
7. 14:24:15 Association class
8. 14:25:44 Has, and container relationship
9. 14:28:49 forgot
10. 14:30:44 Use the method in same class
11. 14:33:52 Probably no declaration, and no limit for the multiplicity

### **Tasmia Haque [TASMIA HAQUE] (11 messages)**

Duration: 21 minutes [.....|..|.||..|.||..|.||..|.||.....]

1. 14:12:52 ok
2. 14:13:54 Dotted line - implement, solid line-inherit
3. 14:16:14 multiplicity
4. 14:17:35 For 1 book, there can be associations with 0 to 1 student
5. 14:19:34 The name represents the label. The triangle represents the direction in which the label should be read
6. 14:21:30 Preview generator depends on chapter and is not associated with chapter
7. 14:23:22 Association class. Class representing association between 2 classes
8. 14:26:20 Hollow - aggregation, container-containee. Full - composition, part-whole.
9. 14:28:37 Directions of association relationship
10. 14:31:01 A category object can be associated with another category object
11. 14:34:08 The visibility and the multiplicity is unknown

### **Joshua Lai Soo Ya [JOSHUA LAI SOO YA] (12 messages)**

Duration: 20 minutes [.....|..|.||..|.||..|.||..|.||.....]

1. 14:12:45 OK

2. 14:13:47 Solid - inherit from parent class Dot dot - implement interface
3. 14:16:11 Multiplicity
4. 14:17:21 Book can reference 0 or 1 Student
5. 14:19:17 Triangle - navigability/direction of association Name - association label?
6. 14:21:23 Dependency instead of association
7. 14:23:10 Association class
8. 14:26:02 Composition Book is a whole and Chapter is a part. If you delete Book, you also delete Chapter
9. 14:27:30 Aggregation Category is the container and Book is the containee. Book can exist without Category
10. 14:28:12 Direction of association
11. 14:30:54 Category is associated with itself
12. 14:32:56 Not specified for both

### Ye Xinkang [YE XINKANG] (13 messages)

Duration: 21 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.].

1. 14:12:48 ok
2. 14:14:18 solid lines - association
3. 14:14:22 dotted lines - dependency
4. 14:16:14 one to one or one to many or sth like that
5. 14:17:29 how many obj in the relationship on each side
6. 14:19:14 direction of relationship and description of relationship
7. 14:21:54 dependency, indicate non permanent relationship
8. 14:23:44 prob associatioln class, cant rmb
9. 14:25:51 agg or comp
10. 14:28:20 self association? idk
11. 14:30:40 cat rel to its
12. 14:34:26 vis - package private
13. 14:34:31 mult - 1

**Lin Xinyi [LIN XINYI] (14 messages)**

Duration: 21 minutes [.....| |..| |.|..| |..|. |..|. | |.....]

1. 14:12:50 okay
2. 14:12:56 OK
3. 14:13:48 Solid line means inheritance, dotted line means implementation
4. 14:16:10 multiplicity
5. 14:17:19 Every book can have either 0 or 1 borrower
6. 14:19:46 It shows the relationship between the two classes, and the triangle shows the direction of the relationship.
7. 14:22:33 I forgot
8. 14:23:19 Loan is an association class between Student and Book.
9. 14:26:00 The hollow diamond shows aggregation and the solid diamond shows composition.
10. 14:26:32 The difference is that aggregation is a container-contains relationship, but composition is a whole-part relationship
11. 14:28:49 Bidirectional association?
12. 14:31:12 Is it one category is related to other categories?
13. 14:33:00 Sorry could you repeat that?
14. 14:34:44 The visibility is public, and the multiplicity of Chapter is not specified

## T17-1.2 [tutor: Shi Xin]

file: chat-log-apollo-tan-[1].txt

## **Jihan Liu [LIU JIHAN] (6 messages -- low participation)**

Duration: 10 minutes [.....|..|...|.||.....]

1. 17:10:58 hi
2. 17:11:58 Follow more specific OOP?
3. 17:14:44 A Student can be associated with at most one loan at a time. A Student may not have a loan (i.e., the relationship
4. 17:18:21 it is not a dependency
5. 17:20:37 I
6. 17:21:16 I think it is inheritance, diamond is super class arrow is subclass

## **Yee Xin Ni [YEE XIN NI] (10 messages)**

Duration: 15 minutes [.....|.|.|..|.||.|...|.....]

1. 17:10:23 hi
2. 17:11:42 one is implement and one is extend
3. 17:13:22 multiplicities
4. 17:14:10 as a range
5. 17:14:35 from 0 to 1/5 instances
6. 17:17:57 represents dependency
7. 17:19:29 directional association
8. 17:20:52 aggregation and composition
9. 17:22:36 association
10. 17:26:16 Unspecified

## **Carine Ang Pei Qi [CARINE ANG PEI QI] (11 messages)**

Duration: 15 minutes [.....|.|.|.|.|.|.|...|.....]

1. 17:10:33 hi
2. 17:11:37 show difference between interface and abstract class
3. 17:13:19 represents the borrower
4. 17:15:06 0 or 1 borrower borrows 1 book
5. 17:15:53 association
6. 17:17:49 it shows dependency
7. 17:19:48 association
8. 17:21:10 aggregation and composition
9. 17:22:51 association
10. 17:26:03 visibility: public
11. 17:26:24 multiplicity: unknown

## **Ng Wan Ting, Eunice [NG WAN TING, EUNICE] (11 messages)**

Duration: 15 minutes [.....|.||||.|.|.||||.....]

1. 17:10:25 Hi
2. 17:12:05 The solid line is an association while the dotted line is not a direct association
3. 17:13:03 Multiplicity
4. 17:14:17 This means that one book can have between 0 and 1 student as its borrower
5. 17:15:54 It refers to the relationship. Composition?
6. 17:17:59 This is so as preview generator is not directly related to chapter.
7. 17:19:28 Enumeration. Class like entity
8. 17:21:03 Aggregation (hollow) and Composition (solid).
9. 17:22:47 Navigability
10. 17:24:13 A category object can be related to another category object.

## **Tan Sze Ling [TAN SZE LING] (12 messages)**

Duration: 15 minutes [.....|.|.|.|.|.|.|.....]

1. 17:10:35 Hello
2. 17:11:19 Implements payee, extends person
3. 17:12:48 multiplicity
4. 17:14:20 0 to 1 Students can be associated with each book
5. 17:15:31 composition
6. 17:15:50 Filled diamond (composition)
7. 17:17:49 May not be in the diagram
8. 17:19:27 Also dependency?
9. 17:20:56 Aggregation and composition Has-a vs whole-owns-part relationship
10. 17:22:48 navigability
11. 17:24:12 Categories can hold reference to each other
12. 17:26:15 Private, 1 to 1

## **Pranav Mahatma [PRANAV MAHATMA] (15 messages)**

Duration: 15 minutes [.....|.|.|.|.|.|.|.....]

1. 17:10:41 hi
2. 17:11:24 One for class one for interface
3. 17:12:59 Approximate number of instances
4. 17:13:48 mutiplicity
5. 17:14:12 What it depends on
6. 17:15:38 Inheritance
7. 17:17:46 Not sure oops
8. 17:19:11 Dependent class
9. 17:20:52 They are more specific subclasses than the classes they inherit from
10. 17:21:06 Wait no
11. 17:21:16 There are multiple instances of the lower object
12. 17:22:25 Extension of a more broad superclass
13. 17:24:11 Can be multiple categories within other categories, subcategories
14. 17:25:51 Private?
15. 17:26:00 Not sure

## **Xu Luoqi [XU LUOQI] (18 messages)**

Duration: 15 minutes [.....|.|.|.|.|.|.|.....]

1. 17:10:27 hi
2. 17:11:28 Solid line is inheritance (from class), and dotted is implementing (interface)
3. 17:13:10 multiplicities
4. 17:14:11 It means that it is optional, a book can be borrowed by 0 or 1 Student
5. 17:14:22 A book can be linked to 0 or 1 student objects.
6. 17:15:44 Association?
7. 17:17:40 It is a dependency, which is different from an association.
8. 17:18:07 A dependency is indirect without having a direct association
9. 17:19:05 Loan is an example of an association class
10. 17:19:25 It represents additional information about an association.
11. 17:20:38 Composition and Aggregation
12. 17:21:00 A book contains a chapter
13. 17:21:13 A category contains books
14. 17:22:30 navigability

15. 17:22:53 Basically which object has reference to which
16. 17:24:05 It means that a category has references to other categories?
17. 17:26:02 The multiplicity of the chapter is not defined, which means any?
18. 17:26:20 The visibility is unknown

### **Chen Linxin [CHEN LINXIN] (18 messages)**

Duration: 15 minutes [.....|.|.|.|.|.|.|.|.....]

1. 17:10:21 hi
2. 17:11:22 interface implementation vs class/inheritance inheritance
3. 17:11:36 dotted is implementation, the black line is inheritance
4. 17:12:48 multiplicity
5. 17:14:07 each book is associated with at most 1 borrower
6. 17:15:18 association labels
7. 17:15:38 triangle is the direction of how the label is applied
8. 17:17:24 dashed line with arrow head represents dependency
9. 17:17:29 of 1 class on another
10. 17:17:48 solid line with arrow head is navigability
11. 17:19:17 association classes, used for providing more information on the association which would have been unsuitable to be stored in either of the 2 classes in the association
12. 17:21:06 filled black diamond is composition, which in this case is book composes of chapter unfilled diamond is aggregation, which in this case is category contains book
13. 17:22:20 bidirectional association
14. 17:22:33 navigability\*
15. 17:23:56 two categories can have references to each other
16. 17:24:01 because they are related
17. 17:25:39 multiplicity is unspecified, visibility is package private
18. 17:26:15 visibility is also unspecified

### **Sanchez Bryce Ainsley Ang [SANCHEZ BRYCE AINSLEY ANG] (19 messages)**

Duration: 17 minutes [.....|.|.|.|.|.|.|.|.....]

1. 17:10:30 hi (real) (hi)
2. 17:11:32 The dotted one is for a class implementing an interface, while the solid one is for a class extending another class
3. 17:12:49 cardinality? multiplicity?
4. 17:13:17 \*multiplicities
5. 17:13:59 Each book has a reference to 0 or 1 students
6. 17:14:20 Replying to "Each book has a reference to 0 or 1 students": \*at least 0 and at most 1 to be explicit
7. 17:15:56 it denotes how they're related, the arrow shows the direction
8. 17:16:07 such as "student borrows book" rather than "book borrows student"
9. 17:17:44 It's because it's a dependency rather than an association. Some functions such as getPreview() need it as an input though the class does not store any references
10. 17:19:08 it's like the relation label storing pairs of (student,book)s
11. 17:19:41 \*association class
12. 17:20:50 shaded = composition not shaded = aggregation shaded = part/whole relationship not shaded = item/container relationship
13. 17:22:06 arrowhead
14. 17:22:32 navigability
15. 17:23:59 a category of books can have a reference to another book category that is related to it
16. 17:24:28 Replying to "a category of books can have a reference to another...": \*and vice versa
17. 17:25:40 Loan attributes visibility is unspecified the chapter's multiplicity is also unspecified
18. 17:25:52 does it being a composition require at least one or no?
19. 17:27:42 there's variable names

## Wong Wai Hoong Ian [IAN WONG WAI HOONG] (32 messages)

Duration: 15 minutes [.....|.|.|.|.|.|.|.|.|.....]

1. 17:10:27 anime is amazing
2. 17:10:44 the web novel "Game of the World Tree" is the best web novel of all time
3. 17:11:56 interface
4. 17:11:58 vs solid class
5. 17:12:00 inheritance
6. 17:12:02 thingy
7. 17:12:58 the multiplicity
8. 17:13:20 a.k.a. the range of the number of objects that relate to a class
9. 17:13:30 I think it should be integer only
10. 17:14:10 book can belong to no student or 1 student
11. 17:14:11 :3
12. 17:14:37 oh man I feel like watching the bee movie again
13. 17:15:51 association?
14. 17:17:07 its just like Japanese all over again
15. 17:17:38 dependency
16. 17:19:03 dashed
17. 17:19:16 means
18. 17:19:32 its an association class
19. 17:19:40 it describes and association
20. 17:20:43 composition and aggregation
21. 17:20:59 composition means its part of the whole
22. 17:21:08 aggregation means its inside
23. 17:21:11 inside
24. 17:21:12 container
25. 17:21:14 contained
26. 17:21:15 thingy
27. 17:21:16 life
28. 17:22:16 navigability
29. 17:22:43 whether object is referencing another class
30. 17:22:49 like in a private variable or something
31. 17:24:21 uhh
32. 17:25:31 if its not stated we dont know?

## Tan Shi Xin (Tutor Shi Xin)

- sure no worries!
- Replying to "Hi Shi Xin, I am course Prof. Came for a quick wat...": Oh i'm so sorry! My bad

---

## F09-3,4 [tutor: Si Kai]

file: chat-log-sikai00-[1].txt

[TANG MING SHAN] (0 messages -- low participation)

[GALVEN SIM YI SIANG] (0 messages -- low participation)

## Goh Chee Yang [GOH CHEE YANG] (10 messages)

Duration: 20 minutes [.....|..|.|..|.|.|.|..|.|.....]

1. 09:12:32 The dashed one means the student implements payee interface



- Kuan Liang Feng, Bryan [KUAN LIANG FENG, BRYAN] (10 messages)**

1. 09:08:11 reading novel in my free time\*.
2. 09:11:52 not sure
3. 09:15:32 amount value
4. 09:17:50 rate?
5. 09:19:56 reference
6. 09:22:28 dont have a clear relationship
7. 09:24:05 unsure
8. 09:30:34 unsure
9. 09:32:28 fields or methods
10. 09:32:46 private/public

1. 09:11:21 Ok
2. 09:12:03 1 is inheritance while 1 is interface
3. 09:15:02 Multiplicity
4. 09:17:48 For each 1 object of the class Book there can be 0-1 instance of Student class
5. 09:19:47 Name: not sure Student borrows book
6. 09:22:30 PreviewGenerator is a dependency which has the method getPreview that takes in a Chapter, it does not have a variable of Chapter
7. 09:24:18 Association class
8. 09:26:11 Composition & Aggregation
9. 09:26:33 Book is a whole of Chapter(part)
10. 09:28:27 Navigability
11. 09:30:20 Category is associated with itself, it can have objects of itself

1. 09:11:15 ok
2. 09:11:44 one is direct extends one is depends on
3. 09:12:47 solid for this case is extend
4. 09:12:56 dash is implements
5. 09:15:19 multiplicity notation
6. 09:17:27 a book can have 0 or 1 borrower
7. 09:19:39 association label
8. 09:19:57 1 category can be related to other one
9. 09:20:06 student borrows book
10. 09:22:12 dependency
11. 09:22:26 PreviewGenerator depends on chapter

### Low Hsin Yi [LOW HSIN YI] (10 messages)

Duration: 15 minutes [.....|..|.|.|.|.|.|.....]

1. 15:12:49 The difference is the dash line is to show dependencies while the solid line is to show association relationship
2. 15:15:46 multiplicity
3. 15:16:40 There can be 0 or 1 student who is the borrower of the book
4. 15:18:29 Name: Association label. It describes the association
5. 15:20:20 not sure
6. 15:22:15 It is an association class. It is related to both student and book
7. 15:24:08 Black diamond is composition symbol. This means that book is composed of chapters.  
Hollow diamond is aggregation
8. 15:25:08 navigability
9. 15:27:22 category reference itself
10. 15:28:27 visibility of loan: unstated chapter multiplicity: 1

**Lee Kar Kuen [LEE KAR KUEN] (10 messages)**

Duration: 15 minutes [.....|.|||.|.|.|.|.|.|......]

1. 15:13:02 Dashed — implements Solid — inherit
2. 15:15:21 multiplicity
3. 15:16:45 It means the number of objects that can be linked to another object
4. 15:18:16 Association labels Meaning of association
5. 15:20:21 Previewgenerator depends on chapter
6. 15:22:16 It is the association class that describes the association between 2 objects
7. 15:23:41 Composition. Chapter is a part of book
8. 15:25:32 directional
9. 15:27:04 the property is related to its methods?
10. 15:28:15 They are unspecified

**Aisyah Binte Shaik Ahmed Ally [AISYAH BINTE SHAIK AHMED ALLY] (11 messages)**

Duration: 15 minutes [ ..... | | . | . | . | | . | . | | ..... ]

1. 15:14:21 Dashed line: showing implementation of an interface Solid line showing inheritance of a class
2. 15:15:54 multiplicity?
3. 15:16:42 Optional, can be linked to 0 or 1 objects
4. 15:18:45 Sorry im not too sure
5. 15:20:45 Association class?
6. 15:22:29 This should be the association class, stores info about the assoicaiton
7. 15:23:49 solid: composition empty: aggregation
8. 15:25:22 Navigability of an association
9. 15:27:20 sorry im not sure
10. 15:28:35 unspecified visibility
11. 15:29:39 multiplicity is unknown

**Ong Wei En [ONG WEI EN] (12 messages)**

Duration: 22 minutes [ ..... | .. | . | . | . | | . | | | ..... | ..... ]

1. 15:12:50 One is implemented, the other is extended
2. 15:15:37 I forgot... but I think it's how many of some can be for the other? Like 1 to many etc
3. 15:16:39 Student can borrow up to 1 book or at least 0 book
4. 15:18:07 I forgot... 😞 but I think its their relation?
5. 15:20:33 Its implemented?
6. 15:22:08 Its the relation between student and book

7. 15:23:54 relation
8. 15:25:27 Not very sure for this
9. 15:26:47 There can be sub-categories
10. 15:27:11 A category can access its own category?
11. 15:28:21 Protected and
12. 15:35:11 B1 is a fiction book but B2 is a children's fiction book

### **Lee Guan Kai Delon [LEE GUAN KAI DELON] (12 messages)**

Duration: 23 minutes [.....|.....|..|.|.|.|.|.|.|.....]

1. 15:04:41 Let me rejoin the call.
2. 15:11:53 OK
3. 15:12:35 Solid line: association Dashed line: dependency
4. 15:15:08 multipliers
5. 15:16:35 book can have at most 1 borrower
6. 15:18:12 label about navigability
7. 15:20:09 not sure
8. 15:22:02 association classes
9. 15:23:41 composition: a part of aggregation: contains?
10. 15:25:10 navigation?
11. 15:26:54 a category is associated with another category and both have references to each other
12. 15:28:17 visibility is public? multiplicity is not stated

### **Shea Pok Him, Philbert [SHEA POK HIM, PHILBERT] (13 messages)**

Duration: 15 minutes [.....|.|||.|||.|||.||.....]

1. 15:13:01 Dashed line means to implement an interface, solid line means to extend a class
2. 15:15:08 Multiplicities
3. 15:16:48 A book is borrowed by 0 to 1 (inclusive) students (who are tagged as "borrowers" of the book)
4. 15:18:04 Association labels
5. 15:18:17 Triangle means the direction of association, e.g. a student borrows a book
6. 15:20:37 Dashed lines indicate dependencies. Here, PreviewGenerator is a dependency of Chapter, but it is not an attribute or association
7. 15:22:20 Loan is the association class that stores attributes of the association between Student and Book. E.g. startDate and returnDate
8. 15:23:49 Solid diamond represents composition (whole-part relationship) whereby Chapter is a part of a Book
9. 15:24:02 Hollow diamond represents aggregation (container-containee)
10. 15:25:19 Not sure, association directions?
11. 15:27:17 Category can have attribute to itself, i.e. a category is related to another category
12. 15:28:22 Loan attributes visibility is unspecified
13. 15:28:33 Multiplicity of chapter is unspecified

### **Loh En Ting Hannah [LOH EN TING HANNAH] (13 messages)**

Duration: 15 minutes [.....|.|||.|||.|||.||.....]

1. 15:13:01 solid is inheritance. dashed line is implement interface
2. 15:15:11 multiplicity
3. 15:16:54 zero or one students borrows up to 5 books
4. 15:18:01 direction of association
5. 15:20:23 PreviewGenerator is dependent on chapter
6. 15:21:57 association class
7. 15:22:29 Loan gives information on student and book borrowed

8. 15:24:03 composition. book is made up of chapter. aggregation. Book belongs to category
9. 15:25:21 association
10. 15:26:53 category is related to another category
11. 15:27:01 self association
12. 15:28:16 public
13. 15:28:31 not stated

### **Teo Wee How James [TEO WEE HOW JAMES] (14 messages)**

Duration: 22 minutes [.....|.....|..|||.|.|.|||||.||.....]

1. 15:05:55 Hi Sinai im currently eating lunch while attending the tutorial, I'd turn off the camera to appear less distracting to everyone
2. 15:06:11 I will turn on the camera once im done! Sorry!
3. 15:12:41 Dotted dash is for implementing an interface and solid line is for inheriting a class
4. 15:15:14 They are called multiplicity
5. 15:16:29 From range zero to one
6. 15:18:07 Navigation The meaning of the triangle shows if an object has a reference to another object
7. 15:20:30 It is a dependency relationship?
8. 15:22:20 It's a separate class that has references to student and book
9. 15:23:54 It's for aggregation and composition
10. 15:24:02 Whole part and is-a rs
11. 15:25:34 navigation?
12. 15:27:12 Category is related to another category
13. 15:28:23 It is the default visibility will be private
14. 15:28:41 The multiplicity of Chapter is undefined

### **Chin Zhen Jie [CHIN ZHEN JIE] (15 messages)**

Duration: 26 minutes [.....|..|||.|.|.|||||.||.....|.....]

1. 15:12:47 Solid is inheritance Dashed is dependency
2. 15:15:05 Multiplicity
3. 15:16:45 Every book has 0 to 1 student that borrows it
4. 15:18:13 Association labels In this case Category is related to itself Student borrows book
5. 15:20:08 Dependency, my bad
6. 15:22:14 Association
7. 15:23:32 Composition
8. 15:23:48 Composition black diamond Aggregation hollow
9. 15:25:44 Navigability
10. 15:26:55 Categories are "aware" of the existence of other categories
11. 15:28:36 unspecified visibility
12. 15:28:43 unspecified multiplicity as well
13. 15:31:02 object
14. 15:37:09 1-3
15. 15:38:57 Target user is not specific enough. Discussion of design implementation

### **Xu Xuezhou [XU XUEZHOU] (21 messages)**

Duration: 34 minutes [....|...|....|.|||.|.|||||.||..|.|.||.....]

1. 15:04:00 hi sorry im in lib, may not be able to open the mic
2. 15:08:03 Hello, I'm Xuezhou, yr4 double major in Mathematics and Computer Sciences. (Sorry I'm in lib so unable to open the mic)
3. 15:13:15 differnt class
4. 15:13:48 Implements and dependency
5. 15:15:31 multiplicity

6. 15:15:43 0-1, 0-5
7. 15:16:34 Can borrow 0 or 1 books
8. 15:18:23 inheritance
9. 15:18:57 association
10. 15:20:34 not sure
11. 15:22:21 Aggregation
12. 15:23:41 Composition
13. 15:23:54 composition for filled one
14. 15:25:18 self-association
15. 15:27:11 Self-association
16. 15:28:34 private
17. 15:28:58 At least has one chapter
18. 15:31:04 object
19. 15:33:48 B2 has two chapters
20. 15:35:14 B1 and B2 has two categories in children and fiction
21. 15:38:52 Target user too general

### Chang Si Kai (Tutor Si Kai)

- The visibility of the Loan attributes is protected
- 

## F13-1,2 [tutor: Timothy]

file: chat-log-tim-pipi-[1].txt

**[CHIA WEI SONG ANDRE] (0 messages -- low participation)**

**Putrevu Mihir Niyogi [PUTREVVU MIHIR NIYOGI] (11 messages)**

Duration: 18 minutes [.....|..|...|.|.|.|.|.|.....]

1. 13:07:41 Ok
2. 13:10:35 dotted = implement methods solid = class inheritance?
3. 13:14:06 multiplicities
4. 13:15:24 a book can be borrowed by 0 to 1 students
5. 13:17:25 some label idk HAHA
6. 13:19:03 it's a reference to that class?
7. 13:19:11 but doesn't depend on it
8. 13:20:23 association class
9. 13:22:07 aggregation, composition (filled)
10. 13:23:47 refers to / direction of reference or smth
11. 13:25:54 category object can refer to another category object

**Daniel Goh Chin Hao [DANIEL GOH CHIN HAO] (11 messages)**

Duration: 21 minutes [.....|..|...|.|.|.|.|.|.....]

1. 13:07:31 im ok
2. 13:10:25 one is inheritance for interfaces, one is inheritance for super classes
3. 13:14:16 multiplicity, student can borrow 0-5 books, book can be borrowed by 0-1 student
4. 13:15:30 book can be borrowed by 0-1 student
5. 13:17:11 association labels, direction of association
6. 13:18:57 it's not an association, it's a dependency
7. 13:20:18 association class
8. 13:22:08 aggregation for empty diamond, composition for filled diamond

9. 13:24:27 navigability
10. 13:26:01 an object can be associated with itself
11. 13:28:33 undefined, if there is no accessibility stated, we cannot assume that its default accessibility if no multiplicity is stated, we can assume any number 0..\*

### **Chan Yong Hong Nigel [CHAN YONG HONG NIGEL] (11 messages)**

Duration: 21 minutes [.....|..|..|..|.|.|.|.|..|.....]

1. 13:07:08 ok
2. 13:10:58 solid: inheritance dotted: dependencies
3. 13:13:43 multiplicity
4. 13:16:04 book can have 0 or 1 borrower from a student
5. 13:17:39 association labels, student borrows the book
6. 13:19:01 it is a dependency rather than a association
7. 13:20:24 association class
8. 13:22:18 empty: aggregation, container item relationship solid: composition, whole part relationship
9. 13:23:42 navigability
10. 13:25:57 categories can be related to other categories
11. 13:28:25 default values

### **Emmanuel Chan Shi Hong [EMMANUEL CHAN SHI HONG] (12 messages)**

Duration: 26 minutes [..|....|...|..|.|.|.|..|..|.....]

1. 13:02:42 Hi TA, hold on let me change to my laptop for the camera
2. 13:07:15 ok
3. 13:11:06 Implementation and inheritance
4. 13:14:34 multiplicities
5. 13:16:05 A book can be borrowed by 1 or 0 student
6. 13:17:40 Association labels?
7. 13:19:22 dependencies
8. 13:20:50 Its a association class
9. 13:21:56 composition
10. 13:24:03 navigability
11. 13:26:11 Unidirectional?
12. 13:28:50 I am not sure

### **Foong Hong Yi [FOONG HONG YI] (12 messages)**

Duration: 19 minutes [.....|.|...|.|.|.|.|..|.....]

1. 13:08:59 ok
2. 13:10:29 dotted is implementation solid is inheritance
3. 13:14:06 relationship like one to many one to one etc
4. 13:15:57 0 to 1 association ie. a book can be borrowed by 0 or 1 students
5. 13:17:23 what relationship the student class has with the book class arrow shows direction of association meaning student borrows books
6. 13:19:28 it depends on the chapter class
7. 13:20:27 association class
8. 13:20:43 the association relies on the class to produce the effect
9. 13:22:06 solid is composition so book is composed of chapter hollow is container so category contains multiple books
10. 13:23:41 association direction
11. 13:25:43 direction
12. 13:28:03 1 is to 1 and private



## Noel Lim [NOEL LIM] (12 messages)

Duration: 20 minutes [.....|...|...|...|...|...|...|...|.....]

1. 13:07:17 Ok
2. 13:10:51 One represents an extends and one represents an association
3. 13:13:55 multiplicities
4. 13:15:33 Book can be borrowed by 0 to 1 students
5. 13:17:35 Association label
6. 13:17:42 association\*
7. 13:18:58 It represents a dependency
8. 13:20:26 Association class
9. 13:22:23 Composition and aggregation
10. 13:23:53 Navigabilities
11. 13:26:10 Represents the direction of the relation
12. 13:28:09 Can't be determined for both

## Wong Yu Zhang [WONG YU ZHANG] (14 messages)

Duration: 34 minutes [.....|...|...|...|...|...|...|...|.....|.....]

1. 13:07:49 OK
2. 13:11:30 the payee is an interface that the student implements, whereas the person is an abstract class that the student has to define abstract methods for
3. 13:14:12 multiplicity
4. 13:16:08 the student can be one or none of a borrower, meaning that he can either choose to borrow or not borrow
5. 13:17:52 not sure
6. 13:19:30 because it does not extend but rather implement
7. 13:21:11 an association class
8. 13:22:01 hollow is aggregation and solid is composition
9. 13:22:28 book composes of chapters
10. 13:23:44 navigability?
11. 13:26:03 categories can be related to each other
12. 13:28:28 there is not limit on chapter
13. 13:29:04 students gets a book through a loan, default attrib
14. 13:41:51 target user is too general

## Jin Diyue [JIN DIYUE] (14 messages)

Duration: 20 minutes [.....|...|...|...|...|...|...|...|.....]

1. 13:07:17 OK
2. 13:11:06 the dotted line is to implement the interface while the black arrow line is inheritance, Student class inherits Person abstract class
3. 13:14:21 multiplicity
4. 13:15:50 one book object can have association with either 1 student or have no association with any students
5. 13:17:28 association labels
6. 13:17:47 triangle means the direction of the association. For instance Student borrows book
7. 13:19:08 this means dependency which is dotted as the relationship is weak
8. 13:20:39 association functions which describe the association
9. 13:20:58 it does not belong to student or book but explain the association
10. 13:21:58 the hollow one is aggregation and the solid one is the composition
11. 13:22:27 aggregation is has relationship while composition is whole part relation
12. 13:23:57 it indicates the navigability of the association
13. 13:26:00 it means a cyclic relation as a category can belong to another category



4. 12:20:38 dependency
5. 12:22:40 Association class
6. 12:25:38 Composition and aggregation
7. 12:25:46 Black and white^
8. 12:28:38 Reference

**Ng Jian An [NG JIAN AN] (10 messages)**

Duration: 19 minutes [.....|..|.|.||.....|..|.|.|.....]

1. 12:12:33 Student extend the abstract class Person and implements the Payee Interface
2. 12:15:30 if student borrowed any books up to 5 books??
3. 12:17:19 Zero or One
4. 12:19:11 association label
5. 12:20:40 dependency
6. 12:25:31 composition
7. 12:25:49 solid - composition hollow - aggregation
8. 12:28:28 navigability
9. 12:30:26 you can have multiple layers of category?
10. 12:32:29 null multiplicity unspecified visibility

**Janelle Tan Rui Xin [JANELLE TAN RUI XIN] (11 messages)**

Duration: 19 minutes [.....|..|.|.|.|..|.|.|.....]

1. 12:12:34 Student class implements the Payee interface Student class inherits from Person class
2. 12:15:29 multiplicity
3. 12:17:23 A student can borrow 0 or 1 book A book can be borrowed by 0 to 5 students
4. 12:18:54 label
5. 12:20:42 because it is a dependency
6. 12:22:52 Loan is an association class which stores information about the borrows association between student and book
7. 12:25:41 solid: composition hollow: aggregation
8. 12:26:04 A book is composed of Chapter objects Category acts as a container for Book objects
9. 12:28:31 navigability
10. 12:29:51 A category object can have association with another category object
11. 12:31:59 unspecified

**Guo Siyan [GUO SIYAN] (13 messages)**

Duration: 18 minutes [ ..... | . . | . | . | . | . | . | . | . | . | ..... ]

1. 12:15:48 multiplicity
2. 12:18:00 each book can be borrowed by 0 or 1 student
3. 12:18:55 association label
4. 12:20:50 dependencies
5. 12:22:33 association class
6. 12:24:14 loan stores information about association about student and book
7. 12:26:14 aggregation: container and containee relationship composition: whole part relationship
8. 12:26:43 solid diamond - composition hollow diamond - aggregation
9. 12:28:33 navigability
10. 12:30:03 category relates to itself
11. 12:30:28 one category can be a subcategory of the other
12. 12:32:06 public \*
13. 12:33:53 object

**Ng Wei En [NG WEI EN] (13 messages)**

Duration: 18 minutes [.....|.|.|.||..|.|||.||..|.....]

1. 12:13:22 extends and implement
2. 12:15:07 associations?
3. 12:15:33 or cardinality?
4. 12:17:25 min 0 max 1 association
5. 12:19:11 association?
6. 12:20:50 dependency on
7. 12:23:06 assoc class
8. 12:23:34 shares attribute between 2 classes
9. 12:25:15 composition and aggregation
10. 12:26:29 yes
11. 12:28:52 direction
12. 12:29:35 associated wif itself
13. 12:32:10 unspecified

**Tham Yu Qing [THAM YU QING] (14 messages)**

Duration: 19 minutes [.....|...|...|...|...|...|...|.....]

1. 12:12:43 Student implements the Payee interface and inherits from the abstract Person class.
2. 12:13:29 Hi so sorry my Zoom lags every time I try to turn on my video
3. 12:14:58 A Student can borrow 0 to 5 Books but a Book can only be borrowed by up to 1 Student.
4. 12:15:24 Multiplicity
5. 12:17:00 A Book can only be borrowed by up to 1 Student
6. 12:18:57 Labels
7. 12:20:47 It is a dependency
8. 12:22:43 It means that Loan is an association class.
9. 12:23:52 It means that Loan is the association between a Student and a Book.
10. 12:25:56 The solid diamond is a composition, hollow diamond is an aggregation.
11. 12:27:03 Category contains Book objects, Book composed of Chapter objects
12. 12:28:38 Navigability
13. 12:29:40 A Category object can have a relation to another Category object.
14. 12:31:51 unspecified visibility

**Quek Zhen Hao [QUEK ZHEN HAO] (17 messages)**

Duration: 19 minutes [.....|..|||.|.|.|.|||.|||.....]

1. 12:12:54 one is association one is dependency
2. 12:15:32 its the valid number for the variable
3. 12:16:05 0-1 a student can borrow 0 to 5 books
4. 12:17:25 a student is only 0 to 1 borrower
5. 12:19:35 inheritance
6. 12:21:17 strong association
7. 12:23:15 its a dependency
8. 12:23:43 it means a student who borrows a book needs to have a loan
9. 12:25:47 hollow is aggregation, solid is composition
10. 12:26:16 a book comprises of chapters
11. 12:26:31 category can have a book
12. 12:26:41 for a chapter to exist there must be a book
13. 12:26:49 but a category doesn't need a book to exist
14. 12:28:27 dependency
15. 12:29:47 a category is related to itself
16. 12:32:00 visibility is not shown because not important
17. 12:32:05 multiplicity no limit

## Lim Yu Han Thaddeus [LIM YU HAN THADDEUS] (21 messages)

Duration: 19 minutes [.....|.|.|.||||..|.|||.||.....]

1. 12:13:05 extend vs implement
  2. 12:15:27 one to many, many to one
  3. 12:15:39 idk the name oops
  4. 12:15:58 multiplicity?
  5. 12:17:08 0 to 1
  6. 12:19:03 association label?
  7. 12:20:56 generator within chapter?
  8. 12:21:04 dependent
  9. 12:22:59 this one no clue
  10. 12:25:16 aggregate and composition
  11. 12:25:23 solid is aggregation
  12. 12:25:30 ay no
  13. 12:25:33 white is aggregation
  14. 12:25:36 black is composition
  15. 12:27:03 container
  16. 12:27:04 part of
  17. 12:28:31 relation?
  18. 12:28:40 navigability?
  19. 12:29:32 category can be related to each other
  20. 12:31:52 private ?
  21. 12:32:09 0 or more than 0
- 

## F12-3,4 [tutor: Tzer Bin]

file: chat-log-tzerbin-[2].txt

**[KIM SEUNG HYUN] (0 messages -- low participation)**

**[JENSEN HUANG YAN KAI] (0 messages -- low participation)**

## Choi Minseok [CHOI MINSEOK] (10 messages)

Duration: 20 minutes [.....|.|.|.|....|.|||.|.|.|.....]

1. 12:14:18 Hello
2. 12:16:41 I know they represent associations but not too sure about the difference
3. 12:18:52 Multiplicity
4. 12:20:12 can be linked to 0 or 1 object
5. 12:25:26 show dependencies
6. 12:27:29 association class, stores information about 'borrows' association between student and book
7. 12:28:59 composition, book is composed of chapter objects hollow one represents aggregation
8. 12:30:37 navigability of association
9. 12:32:51 Category class has an association to other category class object,
10. 12:34:27 unspecified

## Jonathan Ngien [JONATHAN NGIEN ZI YANG] (11 messages)

Duration: 20 minutes [.....|.||..||.||.||||.|.|.|.....]

1. 12:14:26 hello
2. 12:16:54 Solid line is for inheritance dotted line is for interface implementation?

- Ang Wei Jian [ANG WEI JIAN] (11 messages)**

1. 12:14:16 OK
2. 12:15:56 The dotted line means implementing an interface while the full line is inheriting a class
3. 12:18:46 multiplicity(?)
4. 12:20:25 Every book can have 0 or 1 student borrower
5. 12:23:15 Its called labels The triangle shows the direction that the label should be read by?
6. 12:25:36 PreviewGenerator depends on chapter but does not keep a reference to it?
7. 12:27:32 Its called association class It is an association that needs to store information..?
8. 12:28:55 Hollow Diamond: Aggregation It means category contains a book Full: Composition It means Chapter is part of a book
9. 12:30:19 Navigation
10. 12:32:41 It holds a reference to itself?
11. 12:34:09 They are both unspecified

1. 12:17:01 dashed line represent implementing interface in this case, whilst solid line stands for inheritance
2. 12:18:59 multiplicities
3. 12:20:22 a book may have at most one student borrower
4. 12:23:02 it means relation between classes
5. 12:23:36 categories are related to each other. And student relates to a book as a borrower
6. 12:25:26 dashed line stands for dependency. In the given context preview generator depends on a chapter
7. 12:27:15 it's an association class that provides context for the association it refers to
8. 12:29:08 solid diamond refers to composition (i.e. a chapter doesn't exist outside of the book). Hollow diamond indicates aggregation. Books are aggregated over categories
9. 12:30:44 arrow stands for navigability. If it's possible to navigate from A to B then A knows about B.
10. 12:32:38 the relation concept between books is bidirectional
11. 12:32:53 the relation concept between books is bidirectional or reflective
12. 12:34:19 unspecified

1. 12:14:16 OK
2. 12:15:41 association?
3. 12:19:19 multiplicity?
4. 12:20:40 student can borrow 0 or 1 to books

- Bhavina Sathish Kumar [BHAVINA SATHISH KUMAR] (14 messages)**

1. 12:14:28 Sorry I am on my phone
2. 12:16:05 Solid line is about association
3. 12:16:17 Dotted line is a dependency
4. 12:19:02 Multiplicity
5. 12:21:02 You can borrow 0 or 1 book. So the student can have 1 book or a null
6. 12:22:54 Association label or role
7. 12:25:19 Dash is to show the dependency
8. 12:25:46 And the dependency is not already captured in another way like association or inheritance
9. 12:27:16 Association class
10. 12:29:20 The hollow is aggregation, it is a container contained relationship
11. 12:29:27 The other one is an aggregation
12. 12:32:40 Navigability. With the arrows, there is a directional relationship between the chapters
13. 12:34:19 Unspecified
14. 12:35:28 1

1. 12:14:17 hello
2. 12:14:21 OK
3. 12:15:38 Inheritance of superclass and implementation of interface
4. 12:18:37 multiplicity
5. 12:20:10 the possible multiplicity values can be between 0 and 1
6. 12:20:39 book can have 0 or 1 reference to a student as the attribute "borrower"
7. 12:22:48 association label
8. 12:23:03 student borrows a book, category is related to a category
9. 12:24:57 because it's a dependency
10. 12:27:01 it's an association class that represents the association of the student and the book class
11. 12:28:25 solid is composition and hollow is aggregation
12. 12:28:43 if a book is destroyed, chapter is destroyed, but if a category is destroyed, book can still survive
13. 12:30:24 navigability
14. 12:32:34 2 categories are bidirectionally associated with each other
15. 12:34:09 unspecified

1. 12:16:07 It means that its a dependency
2. 12:17:47 In this case it indicates the object implements an interface
3. 12:18:58 The numbers indicate the multiplicity

4. 12:20:09 It means it is zero or one level or multiplicity
5. 12:20:32 So this means it either its associated or not to the other object the line is linking in the UML diagram
6. 12:23:36 The black triangle means it's using the other object, the black triangle implies an association that is not about inheritance in nature. For example
7. 12:25:28 It is a dashed line because preview generator depends on the chapter as it uses chapter to generate it
8. 12:25:40 The dependency relationship results in the dashed line
9. 12:27:07 Association Class
10. 12:28:40 Hollow diamond means that the category is an aggregation of books and the solid diamond means that a book is a composition of chapters
11. 12:30:40 Navigability
12. 12:32:34 Bidirectional Navigability?
13. 12:32:48 Self relationship?
14. 12:34:24 Visibility is private
15. 12:34:31 Multiplicity is two
16. 12:34:43 Sorry I mean multiplicity is one

### **Ng Tzer Bin (Tutor Tzer Bin)**

- The triangle need not be hollow

## **F13-3,4 [tutor: Tzer Bin]**

file: chat-log-tzerbin-[3].txt

### **Li Yaner [LI YANER] (2 messages -- low participation)**

Duration: 10 minutes [.....|.....|.....]

1. 13:15:40 OK
2. 13:26:31 association

### **Goh Wei Hong Brian [GOH WEI HONG BRIAN] (10 messages)**

Duration: 27 minutes [.....|..|..|||..|.|.|.....]

1. 13:26:16 okay
2. 13:29:55 chapter is not a fundamental part of Previewgenerator core structure
3. 13:32:45 realization
4. 13:33:04 association line
5. 13:33:56 composition
6. 13:34:29 aggregation, weak has a rs, for yellow diamond
7. 13:37:21 association, directed association.aggregation,composition
8. 13:39:38 bidirectional association between category and book
9. 13:41:45 private visibility
10. 13:53:53 too broad

### **Ong Yong Hwee, Natalie [ONG YONG HWEE, NATALIE] (10 messages)**

Duration: 23 minutes [.....|.|.|.|.|.|.|.|.|.|.....]

1. 13:19:15 dotted line means the class implements the interface solid line shows association between two classes
2. 13:21:42 multiplicity



3. 13:23:24 dictates how many objects take part in an association
4. 13:26:32 association
5. 13:29:38 shows dependence
6. 13:32:17 association class
7. 13:34:28 solid diamond denotes composition hollow diamond denotes aggregation
8. 13:37:42 it indicates the navigability of an association
9. 13:40:11 bidirectional navigability
10. 13:42:40 visibility - unspecified multiplicity - 1 book can have multiple chapter

### **Seevon Tan Yin Fung [SEEVON TAN YIN FUNG] (11 messages)**

Duration: 26 minutes [.....|.....|..|..|.....|..|..|.....]

1. 13:16:03 ok
2. 13:17:27 the dotted line represents dependency and the solid line doesn't
3. 13:22:07 In this context it is saying that a Student can borrow a Book (multiplicity 0.1 to 0.5)
4. 13:23:06 uhh I think its what I said above?
5. 13:23:51 both are optional because there is a choice of 0.
6. 13:26:17 association label, it describes the meaning of the association
7. 13:29:35 PreviewGenerator is dependent on Chapter cause getPrevoew(Chapter
8. 13:34:37 the diamond that is filled is an aggregation and it represents a container-contained relationship. The diamond that isn't filled is a composition.
9. 13:37:23 they indicate the navigability of an association
10. 13:39:57 It is a bidirectional navigability. I think it has something to do with object category is associated with another object category and vice versa? I'm not sure.
11. 13:42:39 it doesn't have any symbol so its the default value

### **Lam Yun Hong [LAM YUN HONG] (12 messages)**

Duration: 25 minutes [.....|...|. |..|..|..| |...|. |. |.....]

1. 13:16:11 ok
2. 13:17:55 dotted is implements, solid is inherits
3. 13:21:35 multiplicity
4. 13:23:14 1 book can be borrowed by 0 or 1 student
5. 13:26:04 association
6. 13:26:09 direction of association
7. 13:29:05 dependency
8. 13:32:33 association class
9. 13:33:47 solid: composition empty: aggregation
10. 13:37:01 reference
11. 13:39:20 a category has a reference to another category
12. 13:41:38 not specified

### **Poh Sher Yin, Deanna [POH SHER YIN, DEANNA] (12 messages)**

Duration: 26 minutes [.....|...|. |..|..|..|..|..|. |. |.....]

1. 13:16:06 OK
2. 13:17:54 Dotted: dependencies; Solid: associations
3. 13:21:38 Multiplicities?
4. 13:23:01 optional
5. 13:26:12 Association label?
6. 13:29:47 It is a dependency and not an association?
7. 13:32:36 It is an association class
8. 13:34:15 Hollow diamond: aggregation Solid diamond: composition
9. 13:37:46 Navigability?

1. 13:16:16 OK
2. 13:18:09 The straight line represents inheritance of a class while the dotted line represents implementation of an interface.
3. 13:21:48 Multiplicity
4. 13:23:27 Each book can be borrowed by 0 to 1 students
5. 13:23:40 The student is optional
6. 13:26:16 Association. They are association roles.
7. 13:29:59 This line is used to represent dependencies, as there is no solid association within the class.

Duration: 19 minutes [.....|....|.|.|.|.|.|.|.|.|.....]

1. 13:13:48 Ok
2. 13:18:24 Dotted line: Dependency, implement interface Non-dotted line: Association between two classes, class inheritance
3. 13:18:25 Solid line
4. 13:18:47 Multiplicity
5. 13:20:29 0..1 means you can have 0 to at most 1 students borrowing the book
6. 13:22:24 association label
7. 13:24:21 Dependency
8. 13:26:25 Association class
9. 13:27:49 Solid diamond: Composition Hollow diamond: Aggregation
10. 13:30:57 Navigability of an association
11. 13:33:37 unspecified

### **Chua Wen Ting [CHUA WEN TING] (11 messages)**

Duration: 20 minutes [.....|..||.|||.|||.|||.|||.|||.....]

1. 13:13:00 ok
2. 13:16:30 the dotted line represents an interface (i.e. Student is a Payee) the solid line represents an inheritance
3. 13:17:44 solid
4. 13:19:08 multiplicities
5. 13:20:49 means that a student can be a borrower of 0 or 1 book
6. 13:22:19 association label
7. 13:24:31 it represents a dependency
8. 13:26:20 association class
9. 13:28:11 filled diamond - composition i.e. Book is composed of chapters hollow diamond - aggregation
10. 13:31:23 navigability
11. 13:33:47 unspecified null

### **Ding Zhe [DING ZHE] (11 messages)**

Duration: 19 minutes [.....|..||.|||.|||.|||.|||.|||.....]

1. 13:13:39 OK
2. 13:16:48 dotted is implementing an interface
3. 13:17:33 solid
4. 13:19:03 multiplicities
5. 13:20:44 student can have one or zero (optional) association for borrower
6. 13:22:31 labels
7. 13:24:57 it shows dependency
8. 13:27:07 association class
9. 13:27:46 aggregation and composition
10. 13:31:03 navigability
11. 13:33:15 not specified

### **Tay Kay Jun Timothy [TAY KAY JUN TIMOTHY] (13 messages)**

Duration: 20 minutes [.....|..||.|||.|||.|||.|||.|||.|||.....]

1. 13:13:54 ok
2. 13:16:45 im not too sure! am reading up on UML now.. apologies
3. 13:17:35 solid line
4. 13:19:25 number of linked objects?
5. 13:20:48 it means an optional multiplicity; the student can be linked to 0 or 1 object
6. 13:20:50 book\*

- Yong Jun Xi [YONG JUN XI] (14 messages)**

7. 13:23:08 oh label
8. 13:24:23 dependancy
9. 13:24:40 PreviewGenerator depends on Chapter
10. 13:26:23 Additional information
11. 13:26:48 Association class
12. 13:27:40 composition
13. 13:27:46 Book has Chapter
14. 13:31:11 directional navigativity
15. 13:31:29 navigability
16. 13:33:45 public?

## Ng Tzer Bin (Tutor Tzer Bin)

- ok
- =====
- --
- --
- ---

## T15-1,2 [tutor: Wayne]

file: chat-log-waynezsy-[1].txt

**[NUR AIN SAKINAH BINTE ZAINUDDIN] (0 messages -- low participation)**

## Corey Siah Jia Rong [COREY SIAH JIA RONG] (7 messages)

Duration: 18 minutes [.....|.|. ....|. ...|. |..|.|.]

1. 15:29:47 association with a special property
2. 15:31:42 visibility is public
3. 15:36:17 object
4. 15:40:40 the student loans 2 books where book 2 has 2 chapters
5. 15:42:12 1-3
6. 15:45:33 no further problems other than the ones mentioned
7. 15:48:21 thank you!

## Lee Jun Heng [LEE JUN HENG] (9 messages)

Duration: 19 minutes [.....|..|..|..|..|..|. ....|.]

1. 15:29:06 association?
2. 15:32:22 public by default, 0 or 1?
3. 15:35:36 object diagram
4. 15:38:42 how objects interact
5. 15:41:21 student adam borrowed 2 books book b2 has 2 chapers b1 has both children and fiction category b2 has children category
6. 15:42:13 3-5
7. 15:42:34 1-3
8. 15:44:57 implementation inside value pro
9. 15:48:26 thank you

## Lee Chen Xuan [LEE CHEN XUAN] (11 messages)

Duration: 18 minutes [.....|.|. ....|. |..|.|. |..|.|.]

1. 15:29:26 not sure honestly..
2. 15:31:08 private visibility for the attributes
3. 15:31:57 Multiplicity of the Chapter is 2
4. 15:35:57 structure
5. 15:37:09 cause theres different instances?
6. 15:38:15 the oop structure
7. 15:40:17 book b2 has 2 chapters
8. 15:40:49 book b2 have the genres fiction and children
9. 15:42:18 3 - 5 teams
10. 15:45:07 Target user too general
11. 15:48:24 thank you

### **Kong Zi Hung [KONG ZI HUNG] (18 messages)**

Duration: 37 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.]

1. 15:11:01 ok
2. 15:13:15 inheritance & interface implementation?
3. 15:15:34 multiplicity
4. 15:17:16 For each of Book, there can be 0 -1 student borrows it
5. 15:19:12 Association labels
6. 15:21:13 it shows dependency
7. 15:22:43 Association classes
8. 15:24:15 filled diamond are compose relation, the other is contains of relation
9. 15:26:07 Navigability
10. 15:28:52 category object can access from other category object, vice versa
11. 15:31:41 unspecified for visibility and multiplicity?
12. 15:35:45 object
13. 15:37:13 colon and underline
14. 15:37:35 examples of the class diagram?
15. 15:40:40 there is a student call adam, he got two loan of book. Book 1 is fiction category and book 2 is fiction and children category. Book2 contains of 2 chapter: c1 and c2. the children and fiction category is related
16. 15:41:58 1 to 3
17. 15:45:47 no other problem
18. 15:48:18 thank you!!!

### **Haridos Sreelakshmi [HARIDOS SREELAKSHMI] (21 messages)**

Duration: 36 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.]

1. 15:11:59 OK
2. 15:13:43 I don't know, sorry
3. 15:16:13 multiplicity
4. 15:17:58 Not sure, sorry
5. 15:20:29 Association(?)
6. 15:21:35 dependency
7. 15:23:04 Not sure
8. 15:24:00 Aggregation and composition
9. 15:26:38 navigability
10. 15:29:33 Category having reference to another category
11. 15:29:51 Bidirectional navigability(?)
12. 15:31:28 Package private?
13. 15:31:48 No visibility
14. 15:31:55 Multiplicity unspecified
15. 15:35:57 object
16. 15:36:55 The Colon

17. 15:38:09 Object relationship(?) specifies the parent class(?)
18. 15:40:45 Adam loaned 2 books from children and fiction category
19. 15:41:31 B2 has chapter c1 and c2
20. 15:42:23 1-3(?)
21. 15:48:19 Thank you!

## **Mohamed Navas Farhan [MOHAMED NAVAS FARHAN] (22 messages)**

Duration: 36 minutes [.....|.|.|.|.|||||.|.|||||||..|.|.|.|.|.|.].

1. 15:11:41 👍
2. 15:13:18 Dotted line -> implements Solid line -> inherits
3. 15:15:41 multiplicity
4. 15:17:45 Each student can borrow 0-5 books
5. 15:19:36 Idk oops
6. 15:20:09 Inheritance?
7. 15:21:28 Dependencies?
8. 15:22:57 Dk
9. 15:24:00 Composition and aggregation
10. 15:26:17 dk
11. 15:27:38 navigability
12. 15:28:56 Categories have references to each other
13. 15:29:07 Bidirectional navigability
14. 15:30:45 No visibility
15. 15:31:14 Can have any multiplicity
16. 15:32:36 Both unspecified
17. 15:35:45 Object diagram?
18. 15:37:59 Not sure
19. 15:40:36 Student Adam has borrowed 2 books. B1 is fiction category. B2 is fiction and children category. B2 has 2 chapters c1 and c2.
20. 15:42:13 1-3?
21. 15:44:59 Target user group is too large?
22. 15:48:18 Thank youu

## **Yin Can [YIN CAN] (24 messages)**

Duration: 31 minutes [.....|.|.|.|||||||.|||||...|.|.|.|.|.|.].

1. 15:13:17 Dependency and inheritance
2. 15:15:37 Multiplicity
3. 15:17:11 A book can be borrowed by 0 to 1 student
4. 15:19:30 label
5. 15:19:54 Each category is related to other category
6. 15:20:09 Student borrows book
7. 15:21:46 Dependency , because we need not show that as a dependency arrow in the class diagram if the association is already indicated in the diagram.
8. 15:22:40 Association classes
9. 15:23:00 Connection between student and book
10. 15:24:00 Solid diamond is composition
11. 15:24:26 Empty diamond is aggregation
12. 15:25:02 Composition is whole -part relation and aggregation is container containee
13. 15:26:10 Navigability
14. 15:28:35 Self association
15. 15:28:50 bidirectional navigability
16. 15:29:03 Category will have reference to another category
17. 15:30:49 Public
18. 15:31:02 Not specified



1. 14:09:51 ok
2. 14:10:27 Inherit vs extends
3. 14:10:33 I mean implements vs extends

4. 14:13:52 cardinality
5. 14:17:23 A student can borrow 0 or 1 books
6. 14:18:27 relation
7. 14:21:19 Dont know
8. 14:23:06 Association object
9. 14:25:11 Necessary variable vs unesscary
10. 14:27:01 relation
11. 14:28:55 Catagriy references itself
12. 14:30:41 Private
13. 14:30:55 \*

**Tok Jun Hui Nicholas [TOK JUN HUI NICHOLAS] (14 messages)**

Duration: 33 minutes [..... | ... | ... | .. | . | . | . | . | ..... | ..... | .....]

1. 14:09:51 ok
2. 14:10:46 Solid is inheritance Dash line implementing interface
3. 14:14:26 Multiplicity
4. 14:18:03 Student can be associated with 0 or 1 for of book
5. 14:18:52 Label Direction to read
6. 14:21:01 Its a dependency
7. 14:23:16 Association Class
8. 14:25:37 Solid diamond is Composition Empty Diamond is Aggregation Composition is when one class cannot exist if the other class is absent Aggregation is the container container relationship
9. 14:27:00 Navigability?
10. 14:29:19 Category containing an association to category
11. 14:30:46 Unspecified Unspecified
12. 14:36:59 no
13. 14:42:46 Thank you
14. 14:42:55 Have a nice day

**Abdul Hakam Bin Nor Razak [ABDUL HAKAM BIN NOR RAZAK] (14 messages)**

Duration: 22 minutes [ ..... | . | | . . | | . . | | . | . | . . | ..... ]

1. 14:09:55 OK
2. 14:10:52 Dashed line interface and solid line abstract
3. 14:12:01 Then is it not pointless to write interface and abstract?
4. 14:13:08 Thank You!
5. 14:14:03 multiplicity
6. 14:17:10 1 book has either 0 or 1 student associated
7. 14:18:50 Direction
8. 14:20:51 Dependency
9. 14:23:08 Association class
10. 14:24:59 Aggregation not filled Composition filled
11. 14:26:53 Navigability
12. 14:28:50 It refers to. Itself
13. 14:31:01 Loan: Unknown Chapter: Unknown
14. 14:32:30 Any good reason to make a uml model with the visibility/multiplicity omitted?

**Yashvan Alagirisamy [YASHVAN ALAGIRISAMY] (14 messages)**

Duration: 32 minutes [.....| |...|..| |..|.|.| |..| |.....|....|.....]

1. 14:09:50 ok
2. 14:10:44 solid is inheritance dash line is implements
3. 14:14:18 multiplicity

- Benjamin Wang Jiayuan [BENJAMIN WANG JIAYUAN] (15 messages)**

1. 14:09:52 OK
2. 14:11:31 When implementing an interface, a dashed line is used
3. 14:14:08 multiplicity
4. 14:17:29 A book can be borrowed by either zero or one student
5. 14:18:58 associations label
6. 14:19:36 The arrow is to show the direction to read
7. 14:21:09 dependency
8. 14:23:19 Association classes
9. 14:23:52 It stores additional information on the borrows relationship that do not belong to student or book
10. 14:25:03 Composition for shaded and aggregation non shaded diamond
11. 14:26:05 For composition, it models, has a relationship. Aggregation models a container contained relationship
12. 14:26:43 Navigability
13. 14:29:44 Category is related to another category. Each will have a reference to the other
14. 14:30:48 Unspecified
15. 14:31:15 Multiplicity is 0 .. \*

Duration: 32 minutes [.....|...|. .|. .|. .|. .|. .|. .|. .|. .|. .|. .|. .|. .]

1. 14:10:55 solid line: inheritance, dashed line: implements
2. 14:14:06 multiplicity
3. 14:17:17 Book is borrowed by either 0 or 1 Student
4. 14:19:02 navigability
5. 14:19:41 direction to read
6. 14:21:14 dependency
7. 14:23:29 association class, contains an association that does not belong to student or book directly
8. 14:25:07 composition: shaded, aggregation: non-shaded
9. 14:25:27 aggregation: container-contains relationship
10. 14:25:55 composition: whole-part relationship
11. 14:27:01 navigability
12. 14:29:56 category related to another category object has a reference to each other
13. 14:31:30 visibility: not specified multiplicity: not specified
14. 14:37:26 no questions 🔥
15. 14:42:50 thank you
16. 14:42:55 bye everyone

## F10-1,2 [tutor: Wen Li]

file: chat-log-wendy0107-[1].txt

## [HAQUE MALIHA] (0 messages -- low participation)

**Kannan Annamalai [KANNAN ANNAMALAI] (10 messages)**[illegible]

1. 10:12:10 OK
2. 10:13:46 dashed arrow is inheritance, solid line is association
3. 10:15:38 Multiplicity
4. 10:17:00 Each book can be borrowed by a maximum of 1 student
5. 10:20:33 it shows dependency
6. 10:21:31 This is an association, means each book being borrowed is associated with a Loan object
7. 10:23:17 Composition and aggregation, Book contains a chapter
8. 10:24:23 Navigability
9. 10:26:31 self-association
10. 10:28:01 multiplicity of 1, visibility package

**Lee Wai Kin [LEE WAI KIN] (10 messages)**

Duration: 13 minutes [.....|.|.|.|.|.|.|.....]

1. 10:14:02 Dotted line means implements from interface, filled line means extends
2. 10:15:46 Means number of instances that can be related
3. 10:17:07 Each book can be borrowed by 0 or 1 student
4. 10:18:09 Association labels Direction in which the label is read
5. 10:20:13 it is a dependency
6. 10:21:25 Association class, stores info about the association
7. 10:23:39 Aggregation: Category contains Book Composition: Book composed of Chapter
8. 10:24:37 unidirectional association
9. 10:26:22 associated with itself
10. 10:27:35 Unspecified, null

**Ong Jing Chun [ONG JING CHUN] (11 messages)**

1. 10:12:23 OK
2. 10:14:18 The dashed line represents an interface , solid line represent inheritance
3. 10:15:46 represents instances
4. 10:17:02 0 or 1 instances
5. 10:18:42 Name: Relation Triangle inheritance
6. 10:20:31 Dependency?
7. 10:21:49 Name: Association with association class Meaning: Association class
8. 10:23:13 Hollow: Aggregation Filled: Composition
9. 10:24:38 Name: Navigable association
10. 10:26:45 I am not sure
11. 10:27:45 Lack visibility and can have multiple

**Low Hui Yen (Megan) [LOW HUI YEN] (11 messages)**

Duration: 23 minutes [.....|.|.|.|.|.|.|.....|.....]

1. 10:12:35 ok
2. 10:13:26 Implements interface and extends class
3. 10:15:37 Idk
4. 10:17:23 There can be 0 or 1 students ..?
5. 10:18:26 Not sure
6. 10:20:17 dependency
7. 10:21:42 Realisation ?
8. 10:23:02 Aggregation and composition
9. 10:24:49 Association?
10. 10:26:32 idk
11. 10:36:07 Thanku

**Wong Zhi Jun [WONG ZHI JUN] (12 messages)**

Duration: 26 minutes [.....|.||.|.|.|.|.|.|.....|.....]

1. 10:12:16 OK
2. 10:14:08 Dotted line is for inheriting interfaces, solid line is for classes
3. 10:15:25 Multiplicity
4. 10:17:18 Each student can borrow 0-5 books, each book can be borrowed by 0-1 student
5. 10:18:21 Association labels. Triangle indicates direction in which the label is to be read
6. 10:20:07 It is a dependency not an association
7. 10:21:28 Association class. Loan stores information about the borrows association
8. 10:23:10 Hollow diamond is for aggregation, a container - containee relationship. Solid diamond is for composition, a whole - part relationship
9. 10:24:32 Navigability
10. 10:26:21 A category can store a reference to another category
11. 10:27:22 Not specified
12. 10:38:39 Thank you!

**Gabriel Lim Yi Wei [GABRIEL LIM YI WEI] (15 messages)**

Duration: 15 minutes [.....|.|||.|||.|||.|||.|||.|||.....]

1. 10:12:25 ok
2. 10:14:15 dependency vs association
3. 10:15:23 multiplicity
4. 10:17:01 each book can be borrowed by 0-1 students
5. 10:18:18 triangle indicates navigability
6. 10:18:32 it means borrower borrows from borrowed
7. 10:19:52 it is a weaker association
8. 10:21:33 it is association class
9. 10:21:56 it stores additional information
10. 10:23:03 composition and aggregation
11. 10:23:11 composition is the filled diamond
12. 10:23:28 book is an aggregation of category
13. 10:24:45 navigability
14. 10:26:26 category 1 is related to another category
15. 10:27:27 not indicated

**Kerk Tai Heng [KERK TAI HENG] (15 messages)**

Duration: 15 minutes [.....|.|.|.|.|.|.|.|.|.|.....]

1. 10:12:30 ko
2. 10:12:32 ok
3. 10:13:17 something implement or inherit

4. 10:15:14 something multiplicity
5. 10:17:22 a student is either a borrower or not
6. 10:18:11 association label direction of the association (student borrows book, not vice versa)
7. 10:19:58 dependency
8. 10:21:21 association class. loan is a class used to represent the borrows associaiton
9. 10:22:44 aggregation composition
10. 10:22:57 erm diamond?
11. 10:23:04 as opposed to triangle
12. 10:23:04 lol
13. 10:24:21 navigability
14. 10:26:04 two way navigability
15. 10:27:33 whatever you want it to be

## Chen Jianxi [CHEN JIANXI] (19 messages)

Duration: 23 minutes [.....|.|.|.|.|.|.|.|.....|..|.|.....]

1. 10:14:31 Solid line: inheritance
2. 10:15:37 multiplicity
3. 10:17:16 A book can only have 0 or 1 borrower, which is a student
4. 10:18:24 Relation
5. 10:18:47 Association label
6. 10:20:20 dependencies
7. 10:21:06 Join table
8. 10:21:23 \*association class
9. 10:22:58 White: aggregation Black composition
10. 10:24:16 Sounds like delete cascade
11. 10:24:42 navigability
12. 10:26:13 A field is dependent on another field
13. 10:26:21 \*within the same object
14. 10:27:36 Visibility unspecified, probably not important
15. 10:27:59 Chapter multiplicity: not specified?
16. 10:33:54 No backend server should be used?
17. 10:36:07 Do you mind sharing what internship you are on now?
18. 10:36:55 How's the develop in startup like
19. 10:38:27 Thanks!

## Ng Wen Li (Tutor Wen Li)

- Replying to "Sounds like delete cascade": note that a delete cascade is not sufficient for a relationship between 2 classes to be considered a composition :D

## F11-1,2 [tutor: Wen Li]

file: chat-log-wendy0107-[2].txt

## Lim Hao Yu, Lucas [LIM HAO YU, LUCAS] (9 messages)

Duration: 19 minutes [.....|...|....|.|.|.|.|..|.....]

1. 11:10:30 sry give me 1 sec to on my cam
2. 11:14:26 ok
3. 11:19:01 borrow at most 1
4. 11:20:33 association?
5. 11:22:26 dependency

6. 11:24:14 loan is a assoc class
7. 11:25:33 aggregation and composition
8. 11:27:15 related to
9. 11:30:19 private?

### **Reanee Chua Yun Lin [REANEE CHUA YUN LIN] (10 messages)**

Duration: 24 minutes [.....|..|..|||.||.||.....|.....]

1. 11:15:10 OK
2. 11:18:58 there is 1 instance of student associated with 5 books?
3. 11:21:04 relationship?
4. 11:22:14 preview generator depends on the presence of a chapter
5. 11:23:44 creates a loan when borrowing
6. 11:25:08 solid diamond -> composition hollow diamond -> aggregation
7. 11:26:57 navigability
8. 11:28:37 category can reference other categories
9. 11:29:55 protected (idk just not public or private) no limit
10. 11:39:53 thank youuu

### **Hugo Chia Yong Zhi [HUGO CHIA YONG ZHI] (11 messages)**

Duration: 15 minutes [.....|.|||.|.|||.|.|||.|.....]

1. 11:14:18 OK
2. 11:16:25 Association is for solid line and dependency for dotted lines
3. 11:17:20 Multiplicity
4. 11:18:50 Each book is borrowed by 0 to 1 student
5. 11:20:41 Association labels Navigability
6. 11:22:19 It is a dependency
7. 11:23:22 Association class
8. 11:25:36 Solid diamond: Composition Empty diamond: Association
9. 11:27:10 Navigability
10. 11:28:46 Category can be related to another category
11. 11:30:14 Unspecified

### **Cao Yitian [CAO YITIAN] (12 messages)**

Duration: 15 minutes [.....|||.|.|.|.|||..||.....]

1. 11:15:04 OK
2. 11:16:41 Implement and extending
3. 11:18:02 cardinality
4. 11:18:50 zero or one
5. 11:20:55 role
6. 11:22:27 signifies dependency
7. 11:24:10 assoc class
8. 11:25:17 aggregation
9. 11:25:39 It represents a "part of" relationship
10. 11:26:56 association direction
11. 11:29:03 categories can be related to each other
12. 11:30:17 private visibility

### **Zack Low Zong Yun [LOW ZONG YUN] (12 messages)**

Duration: 15 minutes [.....|||.|.|||.|||.|.||.....]

- Koh Yu Sheng [KOH YU SHENG] (12 messages)**

1. 11:14:38 OK
2. 11:16:21 Student is a Payee (By implementing Payee) Student is a Person (By extending Person)
3. 11:17:16 Multiplicity
4. 11:18:58 1 book can be borrowed by 0 or 1 student
5. 11:20:04 The association label
6. 11:20:19 The triangle is the direction of the association
7. 11:22:11 That is a dependency, not a navigation
8. 11:23:58 The association class, it links the association, between the student and the book I think
9. 11:25:19 The hollow one is aggregation, like a container. The filled one is composition, like the whole and part
10. 11:26:22 Navigation?
11. 11:28:30 A category is related to another category
12. 11:30:06 Default visibility? Multiplicity is irrelevant here? I'm not sure

Duration: 15 minutes [ ..... | | . | | . | | | | . | | ..... ]

- Warrier Karthika [WARRIER KARTHIKA] (14 messages)**

1. 11:14:19 OK
2. 11:16:21 The dashed arrow shows a dependency, but the solid arrow shows an association between the objects.



- ### Cheng Anqi, Angel [CHENG ANQI, ANGEL] (15 messages)

1. 11:14:22 OK
2. 11:15:48 Solid line means extension, dashed line means implementation
3. 11:17:31 multiplicity?
4. 11:18:51 A book may be borrowed by at most one student, or not at all.
5. 11:20:17 association label
6. 11:20:23 triangle is direction
7. 11:20:29 borrower borrows borrowed
8. 11:22:01 It's a dependency
9. 11:23:37 Association class, it provides more about the association between Student and Book
10. 11:25:17 composition (solid) and aggregation (hollow)
11. 11:26:42 navigability
12. 11:28:35 it is possible to navigate from one category to the other
13. 11:28:55 both categories in an association know of each other
14. 11:29:54 unspecified
15. 11:31:45 object?

Duration: 15 minutes [ ..... | . | | | | | | | . | . | . | ..... ]

- Ng Wen Li (Tutor Wen Li)**

- ## F08-3,4 [tutor: Yan Jie]

**[NGUYEN HUY TUNG] (0 messages -- low participation)**

**Chan Xiao Yong [CHAN XIAO YONG] (13 messages)**

**Ting Jun Rui [TING JUN RUI] (14 messages)**

**Duration:** 30 minutes [.....|....|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.].

1. 08:05:11 Ok
2. 08:09:29 Student inherits from the Person abstract class as denoted by the solid line while it implements from Payee
3. 08:11:43 Multiplicity
4. 08:13:12 There can be only 1 instance of Book assigned to Student
5. 08:15:38 Book needs at least one category but category can have many books [0,\infty)
6. 08:17:21 association labels
7. 08:17:33 Arrows indicate direction
8. 08:20:12 PreviewGenerator proolly depends on some method in Chapter but does not store any references to it
9. 08:24:13 Association class. Student/Book has a dependency on loan, referenced when needed but it doesn't need to be there to compile?
10. 08:26:37 Solid diamond — composition, hollow diamond — aggregation
11. 08:29:52 navigability or smthng I lack the ability to ctrl f the textbook
12. 08:32:42 Some interdepence between different category instances?
13. 08:34:36 Idk and idk
14. 08:35:23 yes

**Low Jian Cheng [LOW JIAN CHENG] (14 messages)**

Duration: 38 minutes [.....|..|..|.|.||..|..|..|..|...|.....|.....]

1. 08:06:05 OK
2. 08:09:30 Solid line with hollow triangle means class inheritance, dashed line represents interface implementation
3. 08:10:21 Multiplicity
4. 08:13:31 A loan can be associated with at most one student, a student may have 0 or 1 active loans
5. 08:15:26 A category must be related to at least one book
6. 08:17:03 aggregation.
7. 08:20:18 Preview generator depends on chapter to generate previews
8. 08:20:51 A solid line would mean that preview generator has a persistent reference to chapter, but dashed indicates it only interacts with chapter when needed
9. 08:23:58 Its a dependency relationship, means that one class depends on or makes use of loan temporarily
10. 08:26:59 Hollow = aggregation, solid = composition, means category has a book, and book owns a chapter
11. 08:29:48 Direct association
12. 08:33:44 The category class has bidirectional navigability
13. 08:34:50 Visibility: package level, multiplicity: one to one
14. 08:44:59 Target user too broad

### Ku Brian [KU BRIAN] (15 messages)

Duration: 28 minutes [ ..... | .. | .. | . | . | . | ... | . | .. | .. | . | ..... ]

1. 08:06:11 ok
2. 08:09:05 association and inheritance
3. 08:10:46 multiplicity
4. 08:13:08 Each book has 0 or 1 student, as a borrower
5. 08:15:33 \*is any amt
6. 08:17:22 association label, direction to be read
7. 08:17:29 e.g. student borrows book
8. 08:19:45 dependency?
9. 08:23:21 association class. Loan captures information related to the act of student borrowing a book
10. 08:25:59 my com charger seems spoilt my com might just crash at any time. i'll restart and be right back
11. 08:26:21 composition vs containment-- A has B, A is part of B

12. 08:29:43 navigation?
13. 08:32:49 two categories are related to each other and can be navigated both ways
14. 08:34:15 unspecified
15. 08:34:17 no defaults

**Dang Quang Thang [DANG QUANG THANG] (16 messages)**

Duration: 28 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.].

1. 08:06:31 ok
2. 08:08:54 dependency vs association?
3. 08:10:09 multiplicity
4. 08:13:04 can be 0 or 1
5. 08:15:23 \*: can be 0 or more 1..\*: can be 1 or more
6. 08:17:19 association label
7. 08:17:32 the arrow indicates the direction to read
8. 08:19:59 Chapter is a dependency of PreviewGenerator
9. 08:22:44 loan is an association class
10. 08:23:14 representing more info about the association between student and book
11. 08:26:48 solid diamond: composition hollow: aggregation
12. 08:27:16 composition is whole-part, aggregation is container-contained
13. 08:29:27 navigability
14. 08:33:11 two categories know about each other
15. 08:34:39 no default visibility and multiplicity
16. 08:35:19 no

**Lester Lim Jia Jun [LESTER LIM JIA JUN] (21 messages)**

Duration: 36 minutes [ . . . . . | | | | | . . | . | . . | . . | . . | . . | . . | . | | . | . . . . . | . . . . . ]

1. 08:07:32 okay
2. 08:08:42 The solid line indicates that student inherits from person and the dashed line indicates that student implements the interface payee.
3. 08:09:45 okay
4. 08:10:40 they are multiplicities
5. 08:11:07 0..1 is 1 or 0 book
6. 08:11:24 0..5 is 0 to 5 students
7. 08:12:59 a book can be borrowed by 0 or 1 student
8. 08:15:09 a category can have any number of books
9. 08:15:23 a book belongs to at least 1 category
10. 08:17:05 They are association labels. The triangle tells us which direction to read from.
11. 08:20:10 a dashed line tells it is a dependency link since previewgenerator does depend on chapter.
12. 08:20:43 it is not solid line since a normal association does not capture the dependency between the two
13. 08:23:17 It is an association class. It tells us additional information about the association.
14. 08:26:57 The hollow diamond is called aggregation while the solid diamond is called composition. The hollow means that a book contains category while the solid mean that chapter is part of book.
15. 08:29:11 They are called navigability
16. 08:32:50 a category can be related to another category and they will have a reference to each other.
17. 08:34:29 The visibility is unspecified so nothing can be said about them.
18. 08:34:52 The multiplicity is also unspecified so nothing can be said about it.
19. 08:35:31 there is no default visibility
20. 08:37:22 it is uml object diagram.
21. 08:44:25 The target user is too general

## Ernest Ng Zi Xuan [ERNEST NG ZI XUAN] (26 messages)

Duration: 36 minutes [.....|.|..|.|...|.|...|.|..|.|..|.|..|.....]

1. 08:07:39 Ok!
2. 08:08:54 One is abstract class inheritance (dotted) and the other is concrete (solid) respectively
3. 08:10:12 multiplicity
4. 08:13:17 there can be 0-1 student borrower to 0-5 books
5. 08:15:04 from 0 to some natural number
6. 08:16:50 association relationship I guess
7. 08:16:54 one way association edit: it's more like the relationship of the object to the other
8. 08:19:54 I can't remember sorry :(
9. 08:20:32 okay it's dependencies
10. 08:22:46 Association classes
11. 08:23:17 Loan is a class that represents the relationship between the student borrower and the book class
12. 08:26:30 Composition, so in this case book class is composed of chapter class
13. 08:27:06 the other is aggregation, so book is within categories but it's not a strict composition
14. 08:29:06 one-way associations?
15. 08:29:43 oh navigability of associations
16. 08:32:35 bidirectional navigability of association
17. 08:32:46 so in this case some category objects are related to one another?
18. 08:34:08 package private
19. 08:34:15 undefined
20. 08:34:23 but it can be filled up later
21. 08:37:26 UML object diagram
22. 08:38:04 I guess behaviour between objects
23. 08:40:37 The student adam has borrowed two books where book 1 is in the fiction category, book 2 is in the children and fiction category. Finally book 2 have chapter c1 and c2
24. 08:42:45 the closer values to the class of interest
25. 08:44:26 idk maybe not very targeted?
26. 08:44:36 the user seems quite arbitrary

## **Censon Lee Lemuel John Alejo [CENSON LEE LEMUEL JOHN ALEJO] (37 messages)**

Duration: 30 minutes [.....|...|...|...|...|...|...|...|...|.....]

1. 08:07:31 Ok
2. 08:08:03 dependency vs association
3. 08:08:20 dashed is association and solid is dependency
4. 08:09:43 yes
5. 08:09:57 multiplicity
6. 08:12:47 book can only be borrowed by 0 or 1 student
7. 08:14:57 any number and it can be 0
8. 08:15:06 1 .. \* means 1 to any number
9. 08:15:28 A book must have at least 1 category
10. 08:15:37 A category can have any number of books
11. 08:15:39 including none
12. 08:16:34 labels
13. 08:16:49 the triangle is the direction
14. 08:16:56 like student borrows book
15. 08:17:05 or a category attribute is related to this attribute
16. 08:19:27 dependency
17. 08:19:45 PreviewGenerator is dependent on Chapter
18. 08:20:09 like the MAX\_LENGTH attribute is dependent on the Chapter
19. 08:22:41 association class
20. 08:22:56 helps to show association between student and book
21. 08:23:47 it can also add on other attributes

22. 08:23:56 which is helpful
23. 08:26:32 Like for category and book, aggregation is like a container and containee relationship.
24. 08:26:39 Then the solid one is composition
25. 08:26:45 a chapter is part of the book
26. 08:26:53 aggregation can be deleted safely
27. 08:26:56 composition cannot
28. 08:29:08 Navigability
29. 08:32:29 the attributes are a reference to each other
30. 08:32:39 or the object is a reference to each other
31. 08:34:14 can't say really
32. 08:34:36 There isn't really a default for these
33. 08:35:22 might be different in different languages
34. 08:37:19 UML Object Diagram
35. 08:37:59 like initialized
36. 08:38:03 at this point in time
37. 08:38:11 when the code run alr

## Ng Yan Jie (Tutor Yan Jie)

- Hello, are you able to send zoom PMs? I have noticed that you aren't sending them and they are counted for tutorial participation.
- 

## F14-3,4 [tutor: Yan Jie]

file: chat-log-logical-1985516-[2].txt

### Gong Haozhen [GONG HAOZHEN] (1 messages -- low participation)

Duration: 1 minutes [.....|.....]

1. 14:37:03 Private Don't know

### Li Daoxin [LI DAOXIN] (2 messages -- low participation)

Duration: 6 minutes [.....|.....|.....]

1. 14:30:03 sorry I do not know
2. 14:36:38 private

### Benedict Bryan Tjandra [BENEDICT BRYAN TJANDRA] (11 messages)

Duration: 30 minutes [.....|...|...|.|.|.|.|.|.|.|.|.|.....]

1. 14:05:50 OK
2. 14:09:27 Inheritance for the solid line and interface implementation for the dashed line
3. 14:13:36 Association multiplicities
4. 14:15:03 An instance of the class at the other end of the association can have either zero or 1 instance of the class that is referenced
5. 14:17:50 It conveys inheritance? Im not too sure
6. 14:20:18 Its used because previewgenerator only temporarily interacts with chapter rather than having a direct relationship with it
7. 14:22:53 An aggregation relationship
8. 14:25:53 Hollow diamond means aggregation while a filled diamond means composition
9. 14:29:07 Its used to indicate the navigability of an association I think
10. 14:32:07 Im not too sure

11. 14:35:57 It defaults to package visibility and the multiplicity of chapter is \* (many)

## **Sikka Arshin [SIKKA ARSHIN] (11 messages)**

Duration: 28 minutes [.....|..|..|..|..|..|..|..|..|..|.....]

1. 14:07:59 ok
2. 14:10:26 Solid line is inheritance, student inherits all behaviours and attributes from Person. Dashed line means interface implementation, that student must implement all methods from Payee.
3. 14:13:14 multiplicity
4. 14:14:44 A Student can borrow at most one Loan, but it is optional (0 means no loan, 1 means exactly one).
5. 14:17:14 Describes the relation (association)
6. 14:20:04 To represent the dependency relationship
7. 14:23:52 "Loan" is an Association Class in UML and it Is used when a relationship needs to store attributes
8. 14:26:12 Hollow diamond shows weak relationship and the solid diamond shows a strong relationship
9. 14:29:32 Navigability Arrows
10. 14:33:00 Categories can be nested or linked to each other.
11. 14:36:04 Loan attributes can be accessed within the same package and book is composed of one or more chaoters

## **Chen Fan [CHEN FAN] (14 messages)**

Duration: 31 minutes [.....|..|..|..|..|..|..|..|..|..|..|.....]

1. 14:05:18 OK
2. 14:08:54 implement interface and extend class
3. 14:10:10 student inherit from person and implement payee
4. 14:12:49 multiplicity
5. 14:15:05 0 to 1 student
6. 14:16:49 association labels
7. 14:18:08 indicate the direction ( student borrows book )
8. 14:19:47 use dashed line to show dependency
9. 14:22:52 loan is an association class
10. 14:26:24 hollow diamond indicates an aggregation while solid diamond indicates composition
11. 14:30:41 arrows to indicate the navigability of an association
12. 14:32:23 this is a bidirectional navigability, both objects have reference to another
13. 14:35:59 the visibility is unspecified
14. 14:36:27 multiplicity is 1

## **Huang Zekai [HUANG ZEKAI] (14 messages)**

Duration: 31 minutes [.....|.....|..|..|..|..|..|..|..|..|.....]

1. 14:05:15 OK
2. 14:11:30 The interface points to an interface, while the other arrow points to an abstract class (?)
3. 14:13:48 Multiplicity constraints in a UML diagram
4. 14:14:47 One student borrows at most one Loan
5. 14:16:51 Association labels
6. 14:17:19 Triangle: generalisation
7. 14:19:58 Because it is not a wrong relationship herre
8. 14:20:20 Here it means PreviewGenerator depends on Chapter
9. 14:23:04 It means aggregation relationship
10. 14:25:43 ·not sure
11. 14:29:15 Unidirectional association
12. 14:31:36 Undirectional association

13. 14:36:01 The multiplicity notation \* near the Chapter class indicates that a Book can have many Chapters.

14. 14:36:21 Visibility: these attributes are accessible only within the same package.

## Ha Jiwoon [HA JIWOON] (16 messages)

Duration: 29 minutes [.....|..|.|.|.|.|.|.|..|..|.|.|..|..|.....]

1. 14:06:06 ok
2. 14:09:55 dashed arrow is to show dependency and the other one is to show association
3. 14:11:15 the other one is inheritance sorry
4. 14:12:51 multiplicity
5. 14:14:52 can be either 0 or 1
6. 14:15:21 a book can be borrowed by either 0 or 1 student
7. 14:16:27 association label
8. 14:17:35 shows that student object borrows book object
9. 14:19:42 to show dependency without having a direct association
10. 14:22:31 Loan class is an association class with student and book class
11. 14:25:53 hollow diamond represents an aggregation meaning the category class contains book class
12. 14:26:26 solid diamond represents a composition meaning the chapter class is part of book class
13. 14:28:51 navigability
14. 14:32:19 a category class is associated with itself
15. 14:35:23 unspecified?
16. 14:35:58 both unspecified?

## Zhang Jikun [ZHANG JIKUN] (20 messages)

Duration: 38 minutes [.....|..|.|.|.|.|.|.|..|..|..|..|.....|...]

1. 14:08:39 Implements vs inherits
2. 14:09:07 For interface vs abstract/non abstract classes
3. 14:12:46 multiplicity?
4. 14:12:57 For the ..
5. 14:13:47 Range separator
6. 14:14:29 Student is associated with 0 or 1 Book
7. 14:14:54 Wait its book can have 0 or 1 borrower
8. 14:17:45 Not sure
9. 14:19:56 It represents dependency relationship of preview generator to chapter
10. 14:20:12 Solid line is for navigation or ownership
11. 14:20:32 So getPreview is the dependency
12. 14:22:37 Association class
13. 14:26:38 Solid diamond means composition, meaning a book is composed of chapter. A chapter cannot exist without a book Hollow diamond is aggregation, meaning a category can have books, and a book can exist without a category
14. 14:28:54 Navigability?
15. 14:31:24 Linked list
16. 14:31:41 Category can navigate to other categories
17. 14:31:54 Sounds like wikipedia pages
18. 14:35:36 Should be private (package visibility that defaults to private?) maybe it could be public if its a pure data class Should be only 1
19. 14:39:29 Class/structure
20. 14:46:46 1-3

## Ng Yan Jie (Tutor Yan Jie)

- Do PM me ok when you are done reading the above
-



## F14-1,2 [tutor: Yi Xian]

file: chat-log-yixiann-[1].txt

**Jodie Lim Zhuo Ying [JODIE LIM ZHUO YING] (11 messages)**

Duration: 27 minutes [ . . . . | . . . . . . . . . . | . | . | | . | . | . | . | . | . | . . . . . . . . . . . . . . . . ]

1. 14:04:49 okay thank you
2. 14:15:46 ok
3. 14:17:34 dotted line is interface
4. 14:19:16 multiplicities
5. 14:20:50 0 means student may not have a loan
6. 14:22:47 association names, inheritance
7. 14:24:59 it represents a dependency
8. 14:26:56 means a direct relationship
9. 14:28:08 composition and aggregation
10. 14:30:23 inheritance
11. 14:32:43 self association

### Le Tu Quoc Dat [LE TU QUOC DAT] (12 messages)

Duration: 18 minutes [ ..... | . | . | . | . | . | . | . | . | ..... ]

1. 14:15:33 Ok
2. 14:16:46 One is generic the other is not
3. 14:18:35 Participation?
4. 14:20:26 A student can borrow as most 1 book
5. 14:20:47 Wait sry a book can have as most 1 borrower
6. 14:23:16 Inheritance?
7. 14:26:46 Generic?
8. 14:28:00 Aggregation
9. 14:30:55 Navigability
10. 14:33:01 Self navigated?
11. 14:34:17 Public
12. 14:34:27 And 0...n

**Nguyen Anh Duc [NGUYEN ANH DUC] (12 messages)**

Duration: 19 minutes [.....|.|.|.|.|.|.|.|.|.....|.....|.....]

1. 14:15:35 ok
2. 14:16:47 implementation and dependency
3. 14:18:44 multiplicity
4. 14:20:17 This means a student can be associated with at most one Loan.
5. 14:22:14 role name
6. 14:22:31 composition
7. 14:24:43 it depends on chapter
8. 14:26:48 dependency?
9. 14:27:53 Aggregation
10. 14:30:04 unidirectional
11. 14:30:46 Navigability
12. 14:34:35 private

**Duong Ngoc Mai [DUONG NGOC MAI] (13 messages)**

Duration: 20 minutes [.....|.|.|.|.|.|.|.|.|.....|.....]

1. 14:22:43 Association, triangle means direction...
2. 14:23:29 More specific, association label
3. 14:24:16 It's a dependency
4. 14:26:58 Association class
5. 14:27:59 Aggregation, a container contains the containee
6. 14:28:10 For the white one
7. 14:28:13 The black one is composition
8. 14:30:27 Navigability
9. 14:32:40 It is related to within itself
10. 14:34:08 Unspecified
11. 14:35:14 Is unspecified the same as unknown? I follow the textbook
12. 14:36:10 object
13. 14:42:52 Sorry I came late today TTT\_TTT byebye

### **Chen Xiangrui [CHEN XIANGRUI] (14 messages)**

Duration: 20 minutes [.....|.|.|.|..|.|.|.|.|.|.|.....]

1. 14:15:31 ok
2. 14:16:36 Dotted lines used for interface, solid lines used for classes
3. 14:18:28 Number of objects that can be associated with the other class's object
4. 14:20:39 Represents number of objects that can be associated with the other class's object. 0 to 1 student can borrow 1 book
5. 14:23:14 Association label
6. 14:24:20 It represents a dependency (Preview Generator depends on Chapter)
7. 14:26:15 Association class. Contains fields that provide information of the association between 2 classes (shared values)
8. 14:28:13 Shaded diamond represents composition while hollow diamond represents aggression
9. 14:30:18 Association between classes
10. 14:30:42 Unidirectional and bidirectional association. Category has Book attribute
11. 14:32:22 The category object has another category object to represent relation to each other
12. 14:32:53 The category object has reference to another category object
13. 14:34:19 Visibility is not indicated as there is no default viability. Multiplicity also not indicated
14. 14:36:10 object

### **Boo Wen Jun [BOO WEN JUN] (14 messages)**

Duration: 12 minutes [.....|.|.|.|.|.|.|.|.|.....]

1. 14:22:07 association
2. 14:23:09 label
3. 14:24:15 implementation of interface
4. 14:25:19 dependency sorry
5. 14:25:26 dependency\*
6. 14:26:00 association class
7. 14:27:48 aggregation and composition
8. 14:29:59 directional arrows
9. 14:30:28 navigability
10. 14:30:47 directed association
11. 14:32:20 category object contains object reference of another category object
12. 14:33:57 public
13. 14:34:28 0..1
14. 14:34:51 unknown

### **Foo Tzie Huang [FOO TZIE HUANG] (15 messages)**

Duration: 20 minutes [.....|.|.|.|.|.|.|.|.|.|.....]

1. 14:15:42 OK
2. 14:16:48 Dotted one is dependencies and solid one is inheritance
3. 14:18:10 multiplicity
4. 14:20:08 A student can borrow 0 or 1 book
5. 14:22:32 They are association labels which describe the meaning of the association
6. 14:24:30 Because it means dependencies rather than association
7. 14:25:35 Means previewGenerator relies on chapter but not as strong as association meaning can exist without the other
8. 14:26:21 I think is association class
9. 14:26:46 Represents additional information about an association
10. 14:28:50 Composition (darkened) - stronger form of aggregation - part class cannot exist independently of the whole class aggregation (normal) - whole part
11. 14:29:44 Directed association
12. 14:32:03 Meaning categories are related to themselves
13. 14:33:58 I think for loan not specified so by default I public
14. 14:34:18 Chapter multiplicity by default is 0 to many I guess
15. 14:36:12 CLASS

### **Chen Xiangyun [CHEN XIANGYUN] (15 messages)**

Duration: 19 minutes [.....|.|.|.|.|.|.|.|.|.....]

1. 14:15:29 ok
2. 14:16:43 One is meant for interface one is just meant for association
3. 14:17:04 The dotted is for interface\*
4. 14:18:28 Multiplicity
5. 14:20:04 Each book can have either 0 students or 1 student borrowing it
6. 14:22:20 Association label ?
7. 14:22:47 The direction of the relationship, eg. Student borrows book.
8. 14:24:23 It is a dependency..?
9. 14:24:48 Preview generator depends on chapter class
10. 14:26:05 Loan is an association class to student and book
11. 14:27:58 The non coloured one is aggregation, the coloured one is composition
12. 14:29:48 navigability
13. 14:31:44 A category can be related to another category
14. 14:34:06 Public ?
15. 14:34:31 Multiplicity is unknown ?

### **Woo Yong Qing [WOO YONG QING] (15 messages)**

Duration: 18 minutes [.....|.|.|.|.|.|.|.|.|.....]

1. 14:15:23 ok
2. 14:16:24 Implement the interface using dotted line
3. 14:17:21 And the one line for inheritance
4. 14:18:28 Association number?
5. 14:19:58 Zero or one
6. 14:20:33 Not more than one borrower can borrow the book
7. 14:22:37 Meaning of triangle is the relationship direction, student borrow book not book borrow student
8. 14:22:53 Association role
9. 14:24:53 Association class
10. 14:26:29 Loan is an association class because it stores information about the borrows association between the student and the Book.
11. 14:28:16 Black one is composition and the other one is aggregation
12. 14:30:22 Navigability

**Daryl Ghee Shao Wen [DARYL GHEE SHAO WEN] (12 messages)**

Duration: 22 minutes [.....|..|.||.||||.|..|.|.|.||.....]

1. 15:16:21 im done reading
2. 15:19:23 association (solid) and dependency (dotted)
3. 15:21:15 multiplicity
4. 15:22:45 0..1 means can be linked to 0 or 1 objects
5. 15:24:21 association label
6. 15:25:26 to describe meaning and direction
7. 15:26:50 because its a dependency and not an association, the previewgenerator needs to refer to a chapter
8. 15:28:32 association class
9. 15:31:45 aggregation and composition aggregation - container relationship, category contains books  
composition - book is composed of chapters
10. 15:33:07 navigability
11. 15:35:29 bidirectional navigability, categories refer to each other
12. 15:38:21 public not sure abiut multiplicity :(

**Lai Yong Rong [LAI YONG RONG] (13 messages)**

Duration: 22 minutes [.....|. .|. .|. .| ||. .|. .|. .| |...|.....]

1. 15:15:58 OK
2. 15:18:26 Solid - "extends" Dotted - "Implements"
3. 15:20:32 Multiplicity
4. 15:22:03 a book can be borrowed by 0 or 1 student
5. 15:24:12 association label
6. 15:25:10 direction in which the label should be read
7. 15:26:27 dependency
8. 15:28:23 Association class, it consists of information about the association
9. 15:30:44 Filled - Composition Blank - Aggregation Composition - "Whole part" relationship  
Aggregation - "Container-Containee"
10. 15:33:07 navigability
11. 15:34:54 Category can be related to itself
12. 15:38:00 the visibility is of loan attribute is unspecified
13. 15:38:21 multiplicity is null

**Nguyen Vu Khang [NGUYEN VU KHANG] (14 messages)**

Duration: 21 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.....]

1. 15:16:13 OK
2. 15:16:36 is there a unified UML reference?
3. 15:16:41 I know there is <https://nus-cs2103-ay2425s2.github.io/website/schedule/week4/topics.html>
4. 15:18:19 solid: extends dotted: implements
5. 15:20:58 multiplicity
6. 15:22:35 A book can have anywhere from 0..1 borrower
7. 15:24:28 Association labels. The triangle is an arrow head that indicates the direction in which the label is to be read.
8. 15:26:48 It shows that the PreviewGenerator depends on the Chapter, and is not associated to a Chapter
9. 15:28:46 It's an Association Class. It stores information about the borrows association between Student and Book.
10. 15:30:36 It denotes composition. In this context, it means that the Book is composed of Chapter objects.
11. 15:33:23 navigability
12. 15:34:42 A Chapter is related to itself
13. 15:35:34 For any Category A that holds a ref to Category B, Category B also holds a ref back to Category A.
14. 15:37:43 visibility is undetermined. multiplicity is similarly unspecified

**Jeremy Samuel Kwik Yi Xian [JEREMY SAMUEL KWIK YI XIAN] (15 messages)**

Duration: 28 minutes [.....|.....|.|.|.|.|.|.|.|.|.|.|.|.....]

1. 15:09:12 My camera is not working sorry! I'm not sure why
2. 15:16:07 OK
3. 15:18:47 Dotted line represents a dependency while solid line represents navigability
4. 15:20:43 multiplicity
5. 15:20:58 would cardinality also be correct?
6. 15:22:33 0 to 1 students are involved in the association. 0 is the lower bound and 1 is the upper bound
7. 15:24:42 association label shows meaning of the association while the triangle shows the direction of the association
8. 15:26:58 it indicates a dependency
9. 15:28:33 Association class, stores information about the borrows association
10. 15:30:50 Hollow diamond is aggregations, Filled diamond is composition
11. 15:31:20 aggregations are container contained relationships, where the contained is not deleted if the container is
12. 15:31:42 but in compositions, it is a whole part relationship where the parts are deleted if the whole is deleted
13. 15:34:23 navigability
14. 15:35:06 bidirectional and self association
15. 15:37:37 it is unspecified

**Muhammad Danial Adam Bin Sudirman [MUHAMMAD DANIAL ADAM BIN SUDIRMAN] (15 messages)**

Duration: 23 minutes [.....|.|||.|||.|||.|||.|||.|||.....]

1. 15:16:07 OK
2. 15:18:58 Dotted line: for interfaces Solid Line: for inheritance
3. 15:21:24 Not sure about it: multiplicity
4. 15:22:08 it is used to indicate the lower or upper limit of the association. 0..1 means that Book can be borrowed by 0 or 1 Student
5. 15:24:26 those are known for direction (association label)
6. 15:25:15 the triangle is to show the direction of the association
7. 15:26:27 it is to show dependency. Preview generator depends on Chapter but not the other way round
8. 15:28:38 Association Class. it need Students and Book
9. 15:30:34 Black diamond: composition (whole part). If book is destroyed, chapter gone too White diamond: aggregation. If category is destroyed, book can still exist
10. 15:31:02 Solid or hollow diamond
11. 15:33:48 It is bidirectional / self association
12. 15:34:58 Category can be related to Another Category
13. 15:35:33 bidirectional navigability
14. 15:38:07 those are unspecified visibility. if something is omitted
15. 15:39:20 i see no default visibility or multiplicity

**Chong Kok Seen [CHONG KOK SEEN] (15 messages)**

Duration: 21 minutes [ .....|.|.|.|.|.|.|.|.|.|.|.|.|.|.....]

1. 15:16:02 OK
2. 15:18:52 A solid line indicates an association between two objects. UML uses a dashed arrow to show dependencies.
3. 15:20:43 multiplicity
4. 15:22:17 for each Book object, there can be 0 or 1 Students associated to it
5. 15:24:18 Association labels

6. 15:24:49 Association labels describe the meaning of the association. The arrow head indicates the direction in which the label is to be read.
7. 15:26:31 Dependency
8. 15:26:52 a dependency is a need for one class to depend on another without having a direct association in the same direction.
9. 15:28:26 Association classes are denoted as a connection to an association link using a dashed line as shown below.
10. 15:28:48 An association class represents additional information about an association. It is a normal class but plays a special role from a design point of view.
11. 15:30:27 UML uses a solid diamond symbol to denote composition. UML uses a hollow diamond to indicate an aggregation.
12. 15:31:10 A composition is an association that represents a strong whole-part relationship. Aggregation represents a container-contained relationship. It is a weaker relationship than composition.
13. 15:33:08 navigability
14. 15:35:47 Category objects references itself
15. 15:37:41 There is no default visibility in UML. If a class diagram does not show the visibility of a member , it simply means the visibility is unspecified (for reasons such as the visibility not being decided yet or it being not important to the purpose of the diagram).

### **Gaanes Theivasigamani [GAANESH THEIVASIGAMANI] (16 messages)**

Duration: 26 minutes [.....|...|.||.|||||.|.|||...|...|.....]

1. 15:15:56 OK
2. 15:19:05 Solid line means inheritance meaning subclass of another. Dotted line means interface implementation
3. 15:21:16 Multiplicity
4. 15:22:51 Book can be borrowed by 0 or 1 student.
5. 15:24:22 I think it's association label?
6. 15:25:18 The triangle is for the direction of the flow
7. 15:26:16 It has a dependancy on chapter
8. 15:28:24 Association path I believe
9. 15:28:29 class\*
10. 15:30:51 Hollow is aggregation, solid is composition
11. 15:33:48 Self association
12. 15:34:49 Category can contain a category I think?
13. 15:35:30 Bi directional navigability
14. 15:38:03 Unspecified. Is it also package dependent? Or is that different?
15. 15:39:51 Object
16. 15:42:12 1 to 3

### **Amanda Quek Yan Ling [AMANDA QUEK YAN LING] (16 messages)**

Duration: 21 minutes [.....|...|.||.||||...|...|.....]

1. 15:16:15 OK
2. 15:17:06 is in canvas files
3. 15:19:00 Solid line represents an association Dotted line represents dependencies
4. 15:21:05 multiplicities?
5. 15:22:34 There can be 0 or 1 students who have borrowed a book. A student can borrow 0 - 5 books.
6. 15:24:21 Association labels
7. 15:25:18 the trangle is the direction to read
8. 15:26:48 PreviewGenerator depends on Chapter
9. 15:29:14 Loan is an association class that stores information about the borrows association between student and book, The line is an association link,
10. 15:30:28 It is a composition, A book is composed of categories
11. 15:31:40 The above is for the solid diamond

12. 15:32:28 The hollow diamond is an aggregation
13. 15:33:14 Navigability
14. 15:36:01 Category is related to itself
15. 15:37:33 Visibility of loan is unspecified
16. 15:38:10 Multiplicity of chapter is unspecified

## Lee Jia Quan [LEE JIA QUAN] (19 messages)

Duration: 29 minutes [.....|.....|..|||.|.|.|||.|||.|||.|||.....]

1. 15:08:45 Hii, sorry for the delay
2. 15:16:33 OK
3. 15:19:03 Solid line with Triangle is for Inheritance, while dotted line with Triangle is for Interface (IIRC)
4. 15:20:39 Multiplicities
5. 15:22:56 for "0..5" It means that a student can borrow any number of books from 0 to 5, while "0..1" means that for each book, it can only either not be borrowed atm or borrowed by one student only.
6. 15:24:42 association
7. 15:24:49 the triangle is the direction of said association
8. 15:26:27 It is mainly to show dependencies
9. 15:27:24 It is used to denote PreviewGenerator's dependencies on Chapter, without there necessarily being an association between the two
10. 15:29:01 It denotes an association class, where its basically a class that links the two classes by way of association...?
11. 15:30:40 Solid is for composition, hollow is for aggregation
12. 15:31:11 Composition means that in this case, if a Book is destroyed, so too are the Chapters
13. 15:31:28 Aggregation on the other hand, if category is destroyed, the book can still exist
14. 15:33:38 I don't actually know this one >.<
15. 15:34:33 Ahhh
16. 15:34:43 Bidirectional association?
17. 15:36:57 I see, so its reference, not association
18. 15:37:42 Visibility: Not specified if not included
19. 15:38:12 Multiplicity: null

## Ng Jun Xiang [NG JUN XIANG] (21 messages)

Duration: 42 minutes [.....|.|.|||.|||||.|||.|||.|||.|||.....]

1. 14:55:20 I don't think my mic is working sorry!
2. 14:55:26 can I type it out?
3. 14:55:44 ok thank you!
4. 15:14:26 hi sorry
5. 15:14:33 my mic not working so I will type out!
6. 15:14:34 I am a year 2 student in Computer Science and I have recently taken an interest in cuesports!
7. 15:14:46 yep
8. 15:16:55 ok
9. 15:18:22 solid line is association, dotted line is implementation?
10. 15:19:27 solid line: association dotted line: dependency
11. 15:20:30 labels
12. 15:22:21 each student can borrow 0 - 5 books
13. 15:23:05 each book borrowed can belong only to 0 or 1 persn
14. 15:24:08 association labels
15. 15:25:27 describe the meaning of the association
16. 15:26:37 because the chapter depends on the preview generator
17. 15:28:50 it is an interface, a characteristic between student and book
18. 15:31:00 composition and aggregation, composition is a strong whole-part relationship, aggregation is weaker



1. 17:12:31 solid line is refers to class or abstract class, dashed line connect to interface
2. 17:15:40 a student borrows 0 or 1 book
3. 17:17:16 association label
4. 17:17:51 to show direction of association
5. 17:20:07 preview generator implements the interface Chapter
6. 17:22:41 association classes
7. 17:23:28 denote a connection to an association link
8. 17:25:29 solid diamond is for composition, hollow diamond is to indicate an aggregation

14. 17:45:00 Thank you!!

**Lee Zhan Hong [LEE ZHAN HONG] (15 messages)**

Duration: 32 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.|.].

15. 17:45:02 Thank you

**Choo Jun Inn Darren [CHOO JUN INN DARREN] (15 messages)**

Duration: 32 minutes [.....|.||..|..|...|..|....| |||||.....|.....]

15. 17:44:57 thank you!

**Mohamed Faizal S/O Mohamed Jamaludeen [MOHAMED FAIZAL S/O MOHAMED JAMALUDEEN] (16 messages)**

Duration: 31 minutes [.....| |....|.|. ....|.|.|.|.|.|.|.|. .....]

4. 17:12:28 interface is like a blueprint, whereas an abstract class is more of polymorphism

5. 17:14:31 cardinality
6. 17:23:48 hi i was unsure
7. 17:25:14 white for aggregation and black for composition
8. 17:27:49 i cant see screen
9. 17:29:12 bidirectional navigability
10. 17:30:37 i cant see anything im cooked
11. 17:32:11 its okay i can understand your teachings
12. 17:36:26 Book has 2 chapters
13. 17:36:50 One book is fiction the other is obth
14. 17:38:22 1-3
15. 17:38:23 lagging
16. 17:38:33 class

### **Tan Wei Lun Nickie [TAN WEI LUN NICKIE] (19 messages)**

Duration: 27 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.....]

1. 17:11:26 OK
2. 17:12:33 one is implementing and the other is dependency?
3. 17:14:15 multiplicity
4. 17:15:41 There can be 0-1 borrower for each book
5. 17:17:07 association labels
6. 17:17:36 The arrow indicates the direction to read the label
7. 17:19:36 It is a dependency
8. 17:22:10 Association classes
9. 17:22:26 Local stores info about student and book
10. 17:22:41 loan\*
11. 17:24:54 compositions, aggregations
12. 17:25:30 composition is a whole part relationship while aggregation is a container contained relationship
13. 17:27:36 navigability
14. 17:28:45 the related categories hold bidirection information about the other
15. 17:32:46 unspecified
16. 17:33:20 unspecified for both
17. 17:36:33 adam is borrowing b1 and b2
18. 17:38:02 1 to 3
19. 17:38:35 class

### **Tay Yong Kiat, Roy [TAY YONG KIAT, ROY] (19 messages)**

Duration: 29 minutes [.....|..|.|.|.|.|.|.|.|.|.|.|.....]

1. 17:09:28 hi sorry my previous tut ended late
2. 17:12:28 implement vs inheritance
3. 17:12:58 implement vs inherit
4. 17:13:14 implement vs inherit
5. 17:14:12 multiplicity
6. 17:15:17 zero or one
7. 17:16:04 zero or one student can be borrow the book
8. 17:17:47 association, direction
9. 17:18:11 association label
10. 17:19:16 dependency
11. 17:19:38 dependency that is not captured by other ways
12. 17:23:01 association class
13. 17:23:17 to represent additional info about the association
14. 17:25:21 composition, aggregation, category contains books, book is made up of chapters
15. 17:28:04 navigabvility

16. 17:28:30 bidirectional  
17. 17:33:17 undefined  
18. 17:37:55 1-3  
19. 17:38:35 class

**Lam Yu Han, Bryan [LAM YU HAN, BRYAN] (20 messages)**

Duration: 28 minutes [.....|..|.|.|.|.|..|||.|..|.|.|||||.....]

1. 17:11:53 Implements interface vs inherits
2. 17:14:00 multiplicity
3. 17:15:43 Tells u how many objects can be associated with another. Student can be associated with 0 to 1 books
4. 17:17:09 Association labels. Triangle is the direction to read the label
5. 17:19:58 Shows dependencies
6. 17:20:20 Instead of association
7. 17:22:14 Association class. Represents additional info about an association
8. 17:25:23 Composition and aggregation.
9. 17:26:05 A book is composed of chapters. If a book is destroyed, the chapters are too.
10. 17:26:27 A category contains books.
11. 17:27:50 Connections?
12. 17:28:32 A category can navigate to other objects of the same class
13. 17:30:21 Yes
14. 17:33:03 Loan is public Multiplicity of chapter is 1...\*
15. 17:34:21 Object
16. 17:36:33 Adam borrowed 2 books. Book 2 has 2 chapters. Book 1 belongs to fiction and book 2 belongs to children category
17. 17:37:53 1-3 teams
18. 17:38:33 Class
19. 17:39:51 Online server
20. 17:40:18 click on tips is a feature

## Liu Yu-Wei [LIU YU-WEI] (20 messages)

**Duration:** 32 minutes [.....|.|.|.|.|.|..|.|.||....|.....]

1. 17:12:21 person is superclass of student while student implement interface payee
2. 17:14:27 associations?
3. 17:15:18 can be either 0 or one
4. 17:15:50 Each book is associated with either 0 or 1 instances of student
5. 17:17:10 association label
6. 17:17:49 student is associated with book with (verb)
7. 17:19:46 this represents a dependency
8. 17:20:05 in which previewGenerator only has its method dependent on Chapter class
9. 17:22:02 association class
10. 17:22:56 it stores information about the borrows association between student and book
11. 17:25:10 filled diamond represents a composition and non solid diamond represents aggregation
12. 17:27:41 navigability of association
13. 17:29:00 each category can be associated to another and another can be associated to the one
14. 17:29:13 sorry English not my strongest suit
15. 17:33:31 unspecified for loan
16. 17:36:50 b2 is both fiction and children while b1 is children
17. 17:38:28 1-3
18. 17:38:35 class
19. 17:39:12 Target user too broad
20. 17:44:54 thank you

## Tan Yiming (Tutor Yiming)

- Shared! Sorry about the delay as I was configuring the settings just now
- Hey pls pm me w/ the answers as it is counted for participation marks! It's fine even if u r unsure about it : )
- You can refer to the course website for answers anytime. It's totally fine to be unsure as the content is quite overwhelming
- Also, do pm me and don't publicly post it in the zoom thanks!
- Hey pls pm me instead of sending in public chat thanks!
- yea
- Now is not

## F10-1,2 [tutor: Yu Cong]

file: chat-log-yucongkoo-[1].txt

**[NITHVIN LEELAKRISHNAN]** (0 messages -- low participation)

**Fadhil Peer Mohamed [FADHIL PEER MOHAMED] (9 messages)**

Duration: 31 minutes [.....| |.....|..| |.....|.]

1. 10:16:20 association label
2. 10:16:34 sorry, i'm having really bad stability issues with zoom right now
3. 10:17:48 dependency
4. 10:18:06 no association
5. 10:24:33 navigability?
6. 10:27:47 how do you differentiate between two unidirectional associations in opposite directions and a bidirectional association on a diagram like this?
7. 10:28:31 no symbol, unspecified
8. 10:48:07 i'm really sorry, i made the mistake of doing this on linux
9. 10:48:09 nothing works

**Lee Chun Hao [LEE CHUN HAO] (11 messages)**

Duration: 18 minutes [.....|.|.|.|.|.|.|.|.|.|.....]

1. 10:09:35 OK
2. 10:10:37 implements vs inheritance
3. 10:12:15 multiplicity
4. 10:14:04 1 book can have 0 to 1 student, while one student can borrow 0 to 5 books
5. 10:15:32 label with direction
6. 10:18:06 dependency. PreviewGenerator depends on a chapter
7. 10:19:37 association class. it hold attributes that relates student and book class
8. 10:21:51 composition (book compose of chapters) vs aggregation (category contain books but not necessarily)
9. 10:24:18 association relation line?
10. 10:26:10 a category can navigate to another category (bi-relation)
11. 10:28:31 public \* default default

**Atreyee Basak [ATREYEE BASAK] (13 messages)**

Duration: 38 minutes [.....|.|.|.|.|.|.|.|.|.....|.]

1. 10:09:43 Is it better to change my zoom name to Atreyee?

2. 10:10:07 Ok
3. 10:11:11 Straight line = Assoc, dashed = dependency
4. 10:12:30 Multiplicity
5. 10:14:02 Student can be Assoc with 0/1 books
6. 10:16:10 Annotation shows the role of the class
7. 10:17:47 Dependency, not association
8. 10:19:28 Association class, usually not a tangible, real world object - represents additional information about association
9. 10:22:18 Solid = composition - whole-part relationship Hollow = agregation - container-contained relationship
10. 10:24:12 navigability
11. 10:26:02 Bidirectional Navigability: Both objects know about each other
12. 10:28:16 Unspecified - no default value
13. 10:48:41 Thanks

### **Lee De En [LEE DE EN] (14 messages)**

Duration: 18 minutes [.....|.|.|.|.|.|.|.|.|.....]

1. 10:09:36 ok
2. 10:10:48 inheritance
3. 10:12:32 multiplication rule
4. 10:13:57 book 0 -1 own by 0-1 student
5. 10:15:38 association label
6. 10:15:53 arrowhead indicating reading direction
7. 10:17:58 dependencies
8. 10:19:20 association link
9. 10:21:52 composition aggregation
10. 10:22:06 Composition implies when the whole is destroyed, parts are destroyed too i.e., the part cannot exist without being attached to a whole. there cannot be cyclical links
11. 10:22:17 Aggregation (not recommended to use in UML) It represents a container-contained relationship (book shelves contain book)
12. 10:24:24 navigability
13. 10:26:04 bidirectional
14. 10:28:22 package private

### **Heng Yee Chong Fabian [HENG YEE CHONG FABIAN] (14 messages)**

Duration: 38 minutes [.....|.|.|.|.|.|.|.|.|.....|..]

1. 10:09:34 OK
2. 10:10:49 inheritance
3. 10:12:29 Multiplication something
4. 10:13:58 Book borrowed by 0 or 1 student
5. 10:15:32 label
6. 10:15:42 Association label, arrow indicates reading direction
7. 10:17:57 It is to show dependencies
8. 10:19:24 Association classes and association link
9. 10:21:54 Composition (solid) and aggregation (empty)
10. 10:22:22 Composition: Parts that make up a whole class, aggregation: Container
11. 10:24:21 Navigability
12. 10:26:08 Bidirectional I think
13. 10:28:16 Unspecified, since no default
14. 10:47:53 Btw the TEAMMATES email is in the junk

### **Soh Woon Hao Kenneth [SOH WOON HAO KENNETH] (15 messages)**

Duration: 19 minutes [.....|.|.|.|.|.|.|.|.|.|.....]

1. 10:09:36 ok
2. 10:11:13 The dotted line represents “implementing the interface” while the solid line represents inheritance
3. 10:12:25 Multiplicity?
4. 10:14:04 Each book can be borrowed by one student
5. 10:14:11 At most 1
6. 10:16:02 Not sure of the name, the triangle refers to the direction in the sense that student borrows books not the other way around
7. 10:18:02 Dashed line refers to dependency
8. 10:18:10 Solid line is association?
9. 10:19:25 Attributes related to the loan of the book
10. 10:21:44 Hollow diamond Is aggregation, filled diamond is composition
11. 10:22:19 Aggregation is like one can exist without the other compared to composition
12. 10:24:07 Navigability ?
13. 10:26:05 Not sure
14. 10:28:25 Unspecified visibility
15. 10:28:43 Unspecified multiplicity

**Kwa Cheng Jing [KWA CHENG JING] (19 messages)**

Duration: 19 minutes [.....|.|.|.|.|.|.|.|.|.|.....]

1. 10:09:32 ok
2. 10:10:47 dotted line is implement, the not dotted line is inheritance
3. 10:12:24 multiplicity
4. 10:12:48 1 student can borrow 0-5 book
5. 10:13:46 1 book can be borrowed by 0-1 student
6. 10:15:35 lable
7. 10:15:36 label
8. 10:15:52 association label
9. 10:18:10 dependency line
10. 10:19:28 association class between student class and book class
11. 10:21:38 solid diamond: composition, the not solid one: contain
12. 10:21:47 aggregation
13. 10:22:06 1 book object is contained in 1 or more category
14. 10:24:21 association
15. 10:24:28 navigation
16. 10:26:06 category can navigate to another category
17. 10:28:21 multiplicity: any
18. 10:28:43 package protected?
19. 10:28:50 package private

**Ingyin San [INGYIN SAN] (23 messages)**

Duration: 22 minutes [.....|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.|.....]

1. 10:09:28 OK
2. 10:10:49 one is an implementation of an interface and the other is an inheritance
3. 10:10:57 the dashed one is the implementation
4. 10:11:07 i think
5. 10:12:19 multiplicity?
6. 10:13:55 an x to x relation of association between the objects?
7. 10:15:20 forgot
8. 10:15:24 relation?
9. 10:16:03 association label
10. 10:17:52 a contains relationship?

11. 10:18:19 dependency
  12. 10:19:15 association class
  13. 10:19:26 represents extra information about the association
  14. 10:21:45 aggregation?
  15. 10:21:58 composition
  16. 10:22:11 when one class is a part of another
  17. 10:24:18 forgot
  18. 10:24:32 navigatibility?
  19. 10:26:05 a category can be an attribute inside another category
  20. 10:26:17 they are related to each other
  21. 10:28:25 i think theres no default visibility? you just take it as not important for now
  22. 10:28:32 multiplicity idk
  23. 10:31:51 all clear!
- 

## **F12-1,2 [tutor: Yu Cong]**

file: chat-log-yucongkoo-[2].txt

### **Geng Yudong [GENG YUDONG] (1 messages -- low participation)**

Duration: 1 minutes [.....|.....]

1. 12:33:46 no default multiplicity

### **Isaac Chua Qian Xiang [ISAAC CHUA QIAN XIANG] (4 messages -- low participation)**

Duration: 11 minutes [.....|.....|...|.....]

1. 12:20:03 Hi sorry I was a little late I was facing some technical issues
2. 12:26:54 Composition and aggregation
3. 12:30:47 Bidirectional association
4. 12:31:07 If its to itself then its reflective association

### **Darren Teo Hee Hong [DARREN TEO HEE HONG] (11 messages)**

Duration: 21 minutes [.....|..|..|..|..|..|..|..|.....]

1. 12:11:54 ok
2. 12:14:38 dotted: implements interface, weak association solid: extends the abstract class, strong association
3. 12:17:13 multiplicity
4. 12:18:49 Book can have 0 to 1 students (either 0 or 1 )
5. 12:21:47 Association or role name Generalisation arrow? It means that a category can be related to another category
6. 12:23:54 Dependency relationship
7. 12:25:30 Association class
8. 12:27:09 Solid diamond means it must contain Empty diamonds means it can contain
9. 12:29:02 It means it is inside
10. 12:30:59 Self association
11. 12:33:43 Unclear, ambiguous

### **Goh Lucas [GOH LUCAS] (12 messages)**

Duration: 21 minutes [.....|..|..|..|..|..|..|..|.....]



- Arulanandam James Beryl [ARULANANDAM JAMES BERYL] (13 messages)**

1. 12:13:37 ok
2. 12:15:46 Solid line refers to inheritance and dotted line like a dependent relationship
3. 12:17:22 multiplicity
4. 12:18:59 0..1 mean optional, means it can be linked to 0 or 1 objects
5. 12:21:54 Its like a directional label, like the student borrows a book
6. 12:23:29 It shows dependencies and not association
7. 12:25:17 Association class
8. 12:25:43 It connects to an association link
9. 12:26:52 Hollow diamond is for aggregation
10. 12:27:11 Solid is for composition
11. 12:29:20 Like a navigability for an association
12. 12:31:23 Bidirectional
13. 12:33:46 Multiplicity is unspecified

Duration: 20 minutes [ . . . . . | . | . . | | . . | . | . | . | | . . | . | . . . . . ]

- Wei Yan Min Oo [WEI YAN MIN OO] (14 messages)**

Duration: 33 minutes [ . | ..... | .. | . | .. | . | . | . | . | . | .. | ..... ]

1. 12:01:01 yes sirr
2. 12:12:04 ok
3. 12:15:44 solid line is for class inheritance rs and dotted line is for interface implementation rs
4. 12:17:09 multiplicity
5. 12:18:43 min 0 max 1
6. 12:21:13 they r association labels and the arrow indicates the direction it is to be read
7. 12:23:39 it is to show dependencies
8. 12:23:53 instead of association
9. 12:25:19 it is an association class
10. 12:25:31 which stores info about the borrows assocaiton
11. 12:27:07 solid diamond is for composition and hollow diamond is for aggregation
12. 12:29:02 the arrowhead denotes navigatibility
13. 12:31:22 not sure wat its called
14. 12:34:09 it takes on the default value

### **Somneel Kumar Saha [SAHA SOMNEEL KUMAR] (14 messages)**

Duration: 20 minutes [.....|.|.|.|.|.|.|.|.|.|.....]

1. 12:12:43 done
2. 12:13:40 OK
3. 12:14:46 dashed - implements interface normal line - extends parent class
4. 12:17:44 multiplicity
5. 12:19:43 A book can be borrowed by 0 or 1 student
6. 12:20:58 association label
7. 12:22:09 direction to read
8. 12:23:24 dependency
9. 12:23:51 no reference of the other class is kept in any class
10. 12:25:18 Loan is an association class
11. 12:27:04 Hollow - aggregation(container-containee relationship) Solid - Composition(part-whole)
12. 12:28:46 navigability, we can navigate from category to book
13. 12:31:08 We can navigate from one category to another as they are related to each other
14. 12:33:24 not defined

### **Glenn Liew Zi Yi [GLENN LIEW ZI YI] (14 messages)**

Duration: 22 minutes [.....|.|.|.|.|.|.|.|.|.|.....]

1. 12:12:12 Ok
2. 12:15:51 Solid - association Dotted - behavioural relationships
3. 12:17:42 Relationship multiplicity
4. 12:18:07 Oops yea I haven't read this wk's content 🙄
5. 12:18:40 Optional can be 0 or 1
6. 12:21:25 Shows direction of relationship?
7. 12:24:08 Dependency?
8. 12:25:15 Association class
9. 12:26:45 Composition
10. 12:27:10 Book is composed of chatper
11. 12:28:49 Navigability
12. 12:31:06 Bidirectional navigability
13. 12:31:26 References itself?
14. 12:34:12 unspecified

### **Hu Junjie [HU JUNJIE] (21 messages)**

Duration: 22 minutes [.....|.|.|.|.|.|.|.|.|.|.....]

- Koo Yu Cong (Tutor Yu Cong)**

- ## T11-1,2 [tutor: Zihao]

**[STANVE AVRILIUM WIDJAJA] (0 messages -- low participation)**

**[CHANDRA SHASHWAT] (0 messages -- low participation)**

[VEE HUA ZHI] (0 messages -- low participation)

**Liew Shuang Yuan [LIEW SHUANG YUAN] (10 messages)**

Duration: 20 minutes [ . . . . . | . | . | | . . | . . | . | . | . . . | . | . . . . . ]

1. 11:08:15 Dotted line is for interface Normal line is for association
2. 11:10:26 Multiplicity
3. 11:12:34 a book can have up to 1 borrower / student
4. 11:13:42 labels triangle shows the direction
5. 11:16:17 a dashed line is to show dependency
6. 11:19:15 association class used to represent additional information
7. 11:21:29 aggregation: Hollow diamond composition: Solid Diamond
8. 11:23:34 navigability
9. 11:27:11 self association / bidirectional navigability
10. 11:29:10 can be private / public can be any number

## **Kimberly Chieng Yi Jia [KIMBERLY CHIENG YI JIA] (12 messages)**

Duration: 21 minutes [.....|..|.|.|.|.|.|.|.....]

1. 11:07:58 solid line is extends, broken line means implement
2. 11:08:27 student extends person (inherit from person) and implementss payee
3. 11:11:16 multiplicity, the participation so students can have 0 - 5 books associated when books can have 0 to 1 student associated with it
4. 11:12:22 books can have 0 to 1 student associated with it
5. 11:14:22 association label, triangle ndicates direction to be read
6. 11:16:33 represents dependencu
7. 11:19:43 association class, provides additional info about associations
8. 11:21:25 composition and aggregation, composition for solid and the empty diamond is aggregation
9. 11:21:59 composition is whole-part and aggregation is container-contained
10. 11:24:01 navigability
11. 11:27:10 bidirectional navigability, categories have reference to each other
12. 11:29:13 not specified

## **Abishai Anargya Halim [ABISHAI ANARGYA HALIM] (12 messages)**

Duration: 22 minutes [.....|..|.|.|.|.|.|.|.....]

1. 11:05:32 OK
2. 11:08:30 dashed line is used between student and payee because payee is an interface, while solid line is used between student and person because person is an abstract class
3. 11:10:24 multiplicity
4. 11:12:27 book can have either no borrower or 1 borrower
5. 11:13:51 association?
6. 11:16:19 its a dependency
7. 11:17:34 Hi can I ask, does the dependency dashed line have to be red? i think the picture in the website shows the line color as red, i might be getting confused
8. 11:19:20 association class
9. 11:21:04 Diamonds, hollow one is aggregation, solid is composition
10. 11:23:34 navigability
11. 11:26:36 self-referential?
12. 11:28:19 they are unspecified

## **Sivakumar Varun [SIVAKUMAR VARUN] (13 messages)**

Duration: 23 minutes [.....|..|.|.|.|.|.|.|.....]

1. 11:05:53 OK
2. 11:08:38 inheritance vs dependency? student inherits person, but is dependent on payee through some other form that cannot be modelled similarly
3. 11:10:26 multiplicity
4. 11:12:45 a book can be borrowed by either no one or one student
5. 11:14:37 Association labels, arrow shows how to read it (in what direction does this association take place)
6. 11:16:40 its a weaker relationship? the dependency cannot be modelled better
7. 11:19:30 association class
8. 11:19:48 means that the 2 objects have an association modelled by this class
9. 11:21:48 aggregation vs composition composition -> part cannot exist without whole aggregation -> part can exist independently of whole
10. 11:23:40 navigability
11. 11:27:05 one category object is related to another category object
12. 11:27:40 they both point to each other (can navigate from one category object to the other one)
13. 11:29:18 both: not given, cannot assume

**Ramesh Kumar Sahana Avantika [RAMESH KUMAR SAHANA AVANTIKA] (13 messages)**

Duration: 23 minutes [.....|...|.|.|..|.|.|.|.|.....]

1. 11:05:29 OK
2. 11:09:00 Student implements Payee
3. 11:10:41 multiplicity
4. 11:12:56 each Student can borrow from 0 - 5 books
5. 11:13:09 a student can also not borrow any books
6. 11:13:59 meaning of association
7. 11:16:22 to show dependencies
8. 11:19:24 Association classes
9. 11:21:18 hollow diamond to indicate aggregation
10. 11:21:41 solid diamond to indicate composition
11. 11:24:44 bidirectional navigability
12. 11:27:48 this is bidirectional navigability, where one category has association to another and that same category has association to one
13. 11:29:11 visibility unspecified

**Loh Wei Hung [LOH WEI HUNG] (15 messages)**

Duration: 23 minutes [ . . . . . | . | . . | | . | . . | . | | . | . | . . | . . . . . ]

1. 11:06:06 OK
2. 11:08:31 It shows dependency vs association
3. 11:08:51 Dotted line is dependency while the black line is association
4. 11:11:18 Multiplicity. It shows how many objects can a certain object have
5. 11:12:38 A book object can only be borrowed by 0 or 1 student.
6. 11:14:25 Association label. E.g. if student borrows point to book then we have to read from student to book
7. 11:16:10 PreviewGenerator is dependent on chapter but it is not associated to chapter
8. 11:16:22 This is because PreviewGenerator has a method that takes Chapter as input
9. 11:19:32 Loan is an association class for student and book. It stores information between student and book
10. 11:21:20 The black diamond denotes composition while the white diamond denotes aggregation. For composition, chapter is container in a book so it is part of the book
11. 11:21:50 Aggregation meaning book can exist even after category is deleted
12. 11:22:02 While for composition, chapter cannot exist if book is deleted
13. 11:24:10 Navigability
14. 11:26:52 Category class has self-association. A category object may be related to another category object
15. 11:29:24 Loan attributes should be public since it defines a relationship between student and book? Multiplicity should be 1 ... N since a book needs to have at least one chapter?

**Song Yuexi [SONG YUEXI] (19 messages)**

Duration: 26 minutes [ .....|..|.|||||.|||.||..|..|..|.|.|.....]

1. 11:05:22 OK
2. 11:08:51 Solid line means “extends” and. The other means “implements”
3. 11:10:32 Number of allowed references
4. 11:11:46 multiplicity
5. 11:12:59 A student can be associated with 0 or 1 books
6. 11:13:07 So they can borrow 0 or 1 book
7. 11:14:23 Triangle means the navigatability of the relationship
8. 11:14:41 depend

9. 11:16:12 It means dependency
10. 11:16:29 But this dependency is not strong enough to be composition
11. 11:19:15 The Loan class is an association class
12. 11:21:17 solid: Composition
13. 11:21:28 The other one is aggregation
14. 11:24:48 Association? With direction
15. 11:27:22 An category object can navigate to another object of this class
16. 11:28:33 Visibility not specified
17. 11:28:58 Multiplicity can be 0..infinity
18. 11:30:50 Can you explain the previous one on arrow pointing to itself again
19. 11:32:02 Oh ok thanks

### **Cheng Zihao (Tutor Zihao)**

- Replying to "means that the 2 obj..." yes. the class gives more info abt the association
-