**Lab 04 – Vu Minh Dung – 20205179**

1. **Swing components**
   1. **AWTAccumulator**

**A screenshot of a computer

AI-generated content may be incorrect.**

Figure 1: Accumulator class

* 1. **SwingAccumulator**

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Figure 2: SwingAccumulator class

* 1. **Compare Swing and AWT elements**

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1. **Create NumberGrid**

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1. **Create a graphical user interface for AIMS with Swing**

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AI-generated content may be incorrect.**

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| **package hust.soict.ict.aims.screen.manager;**  **import javax.swing.\*;**  **import java.awt.\*;**  **import java.util.\*;**  **import java.awt.event.\*;**  **import hust.soict.ict.aims.store.Store;**  **import hust.soict.ict.aims.cart.Cart;**  **import hust.soict.ict.aims.media.\*;**  **public class StoreScreen extends JFrame {**  **private static Store *store* = new Store();**    **JPanel createNorth() {**  **JPanel north = new JPanel();**  **north.setLayout(new BoxLayout(north, BoxLayout.*Y\_AXIS*));**  **north.add(createMenuBar());**  **north.add(createHeader());**  **return north;**  **}**    **JMenuBar createMenuBar() {**  **JMenu menu = new JMenu("Options");**  **menu.add(new JMenuItem("View store"));**  **JMenu smUpdateStore = new JMenu("Update Store");**  **smUpdateStore.add(new JMenuItem("Add Book"));**  **smUpdateStore.add(new JMenuItem("Add CD"));**  **smUpdateStore.add(new JMenuItem("Add DVD"));**  **menu.add(smUpdateStore);**  **JMenuBar menuBar = new JMenuBar();**  **menuBar.setLayout(new FlowLayout(FlowLayout.*LEFT*));**  **menuBar.add(menu);**  **return menuBar;**  **}**    **JPanel createHeader() {**  **JPanel header = new JPanel();**  **header.setLayout(new BoxLayout(header, BoxLayout.*X\_AXIS*));**  **JLabel title = new JLabel("AIMS");**  **title.setFont(new Font(title.getFont().getName(), Font.*PLAIN*, 50));**  **title.setForeground(Color.*CYAN*);**  **header.add(Box.*createRigidArea*(new Dimension(10, 10)));**  **header.add(title);**  **header.add(Box.*createHorizontalGlue*());**  **header.add(Box.*createRigidArea*(new Dimension(10, 10)));**  **return header;**  **}**    **JPanel createCenter() {**  **JPanel center = new JPanel();**  **center.setLayout(new GridLayout(3, 3, 2, 2));**  **ArrayList<Media> mediaInStore = *store*.getItemsInStore();**  **for (int i = 0; i < 9; i++) {**  **MediaStore cell = new MediaStore(mediaInStore.get(i));**  **center.add(cell);**  **}**  **return center;**  **}**    **public StoreScreen(Store store) {**  **StoreScreen.*store* = store;**  **Container cp = getContentPane();**  **cp.setLayout(new BorderLayout());**  **cp.add(createNorth(), BorderLayout.*NORTH*);**  **cp.add(createCenter(), BorderLayout.*CENTER*);**    **setTitle("Store");**  **setSize(1024, 768);**  **setVisible(true);**  **setDefaultCloseOperation(JFrame.*EXIT\_ON\_CLOSE*);**  **}**    **public static void main(String[] args) {**  ***initSetup*();**  **new StoreScreen(*store*);**  **}**    **public static void initSetup() {**  **DigitalVideoDisc dvd1 = new DigitalVideoDisc("The Lion King", "Animation", "Roger Allers", 87, 19.95f);**  **DigitalVideoDisc dvd2 = new DigitalVideoDisc("Star War", "Science Fiction", "George Lucas", 87, 24.95f);**  **DigitalVideoDisc dvd3 = new DigitalVideoDisc("Aladin", "Animation", null, 0, 18.99f);**  ***store*.addMedia(dvd1);**  ***store*.addMedia(dvd2);**  ***store*.addMedia(dvd3);**      **Book book = new Book("The Valley of Fear", "Detective", 20.00f);**  **Book book1 = new Book("A Living Remedy: A Memoir", "Biography", 202.00f);**  **Book book2 = new Book("On the Origin of Time: Stephen Hawking's Final Theory", "Science", 120.00f);**  ***store*.addMedia(book);**  ***store*.addMedia(book1);**  ***store*.addMedia(book2);**  **CompactDisc cd1 = new CompactDisc("Adele - 30", "Music","Adele", 1500.98f);**  **Track track1CD1 = new Track("All Night Parking (interlude)", 161);**  **Track track2CD1 = new Track("To Be Loved", 403);**  **Track track3CD1 = new Track("Woman Like Me", 300);**  **cd1.addTrack(track1CD1);**  **cd1.addTrack(track2CD1);**  **cd1.addTrack(track3CD1);**  **CompactDisc cd2 = new CompactDisc("The Gods We Can Touch", "Music","Aurora", 2000.22f);**  **Track track1CD2 = new Track("Everything Matters", 180+34);**  **Track track2CD2 = new Track("Blood in the Wine", 180+30);**  **Track track3CD2 = new Track("Artemis", 60\*2+39);**  **cd2.addTrack(track1CD2);**  **cd2.addTrack(track2CD2);**  **cd2.addTrack(track3CD2);**  **CompactDisc cd3 = new CompactDisc("Purpose", "Music","Justin Bieber", 1000.98f);**  **Track track1CD3 = new Track("The Feeling", 4\*60+5);**  **Track track2CD3 = new Track("No Sense", 0);**  **cd3.addTrack(track1CD3);**  **cd3.addTrack(track2CD3);**  ***store*.addMedia(cd1);**  ***store*.addMedia(cd2);**  ***store*.addMedia(cd3);**    **}**  **}** |