**ARRAYLIST:**

import java.util.\*;

class Book {

int id;

String name,author,publisher;

int quantity;

public Book(int id, String name, String author, String publisher, int quantity) {

this.id = id;

this.name = name;

this.author = author;

this.publisher = publisher;

this.quantity = quantity;

}

}

public class ArrayListExample20 {

public static void main(String[] args) {

//Creating list of Books

List<Book> list=new ArrayList<Book>();

//Creating Books

Book b1=new Book(101,"Let us C","Yashwant Kanetkar","BPB",8);

Book b2=new Book(102,"Data Communications and Networking","Forouzan","Mc Graw Hill",4);

Book b3=new Book(103,"Operating System","Galvin","Wiley",6);

//Adding Books to list

list.add(b1);

list.add(b2);

list.add(b3);

//Traversing list

for(Book b:list){

System.out.println(b.id+" "+b.name+" "+b.author+" "+b.publisher+" "+b.quantity);

}

}

}

**LINKEDLIST:**

import java.util.\*;

class Book {

int id;

String name,author,publisher;

int quantity;

public Book(int id, String name, String author, String publisher, int quantity) {

this.id = id;

this.name = name;

this.author = author;

this.publisher = publisher;

this.quantity = quantity;

}

}

public class LinkedListExample {

public static void main(String[] args) {

//Creating list of Books

List<Book> list=new LinkedList<Book>();

//Creating Books

Book b1=new Book(101,"Let us C","Yashwant Kanetkar","BPB",8);

Book b2=new Book(102,"Data Communications & Networking","Forouzan","Mc Graw Hill",4);

Book b3=new Book(103,"Operating System","Galvin","Wiley",6);

//Adding Books to list

list.add(b1);

list.add(b2);

list.add(b3);

//Traversing list

for(Book b:list){

System.out.println(b.id+" "+b.name+" "+b.author+" "+b.publisher+" "+b.quantity);

}

}

}

**LIST INTERFACE:**

import java.util.\*;

class Book {

int id;

String name,author,publisher;

int quantity;

public Book(int id, String name, String author, String publisher, int quantity) {

this.id = id;

this.name = name;

this.author = author;

this.publisher = publisher;

this.quantity = quantity;

}

}

public class ListExample5 {

public static void main(String[] args) {

//Creating list of Books

List<Book> list=new ArrayList<Book>();

//Creating Books

Book b1=new Book(101,"Let us C","Yashwant Kanetkar","BPB",8);

Book b2=new Book(102,"Data Communications and Networking","Forouzan","Mc Graw Hill",4);

Book b3=new Book(103,"Operating System","Galvin","Wiley",6);

//Adding Books to list

list.add(b1);

list.add(b2);

list.add(b3);

//Traversing list

for(Book b:list){

System.out.println(b.id+" "+b.name+" "+b.author+" "+b.publisher+" "+b.quantity);

}

}

}

**HASHSET:**

import java.util.\*;

class Book {

int id;

String name,author,publisher;

int quantity;

public Book(int id, String name, String author, String publisher, int quantity) {

this.id = id;

this.name = name;

this.author = author;

this.publisher = publisher;

this.quantity = quantity;

}

}

public class HashSetExample {

public static void main(String[] args) {

HashSet<Book> set=new HashSet<Book>();

//Creating Books

Book b1=new Book(101,"Let us C","Yashwant Kanetkar","BPB",8);

Book b2=new Book(102,"Data Communications & Networking","Forouzan","Mc Graw Hill",4);

Book b3=new Book(103,"Operating System","Galvin","Wiley",6);

//Adding Books to HashSet

set.add(b1);

set.add(b2);

set.add(b3);

//Traversing HashSet

for(Book b:set){

System.out.println(b.id+" "+b.name+" "+b.author+" "+b.publisher+" "+b.quantity);

}

}

}

**LINKED HASHSET:**

import java.util.\*;

class Book {

int id;

String name,author,publisher;

int quantity;

public Book(int id, String name, String author, String publisher, int quantity) {

this.id = id;

this.name = name;

this.author = author;

this.publisher = publisher;

this.quantity = quantity;

}

}

public class LinkedHashSetExample {

public static void main(String[] args) {

LinkedHashSet<Book> hs=new LinkedHashSet<Book>();

//Creating Books

Book b1=new Book(101,"Let us C","Yashwant Kanetkar","BPB",8);

Book b2=new Book(102,"Data Communications & Networking","Forouzan","Mc Graw Hill",4);

Book b3=new Book(103,"Operating System","Galvin","Wiley",6);

//Adding Books to hash table

hs.add(b1);

hs.add(b2);

hs.add(b3);

//Traversing hash table

for(Book b:hs){

System.out.println(b.id+" "+b.name+" "+b.author+" "+b.publisher+" "+b.quantity);

}

}

}

**TREE SET:**

import java.util.\*;

class Book implements Comparable<Book>{

int id;

String name,author,publisher;

int quantity;

public Book(int id, String name, String author, String publisher, int quantity) {

this.id = id;

this.name = name;

this.author = author;

this.publisher = publisher;

this.quantity = quantity;

}

// implementing the abstract method

public int compareTo(Book b) {

if(id>b.id){

return 1;

}else if(id<b.id){

return -1;

}else{

return 0;

}

}

}

public class TreeSetExample {

public static void main(String[] args) {

Set<Book> set=new TreeSet<Book>();

//Creating Books

Book b1=new Book(121,"Let us C","Yashwant Kanetkar","BPB",8);

Book b2=new Book(233,"Operating System","Galvin","Wiley",6);

Book b3=new Book(101,"Data Communications & Networking","Forouzan","Mc Graw Hill",4);

//Adding Books to TreeSet

set.add(b1);

set.add(b2);

set.add(b3);

//Traversing TreeSet

for(Book b:set){

System.out.println(b.id+" "+b.name+" "+b.author+" "+b.publisher+" "+b.quantity);

}

}

}

**PRIORITY QUEUE:**

import java.util.\*;

class Book implements Comparable<Book>{

int id;

String name,author,publisher;

int quantity;

public Book(int id, String name, String author, String publisher, int quantity) {

this.id = id;

this.name = name;

this.author = author;

this.publisher = publisher;

this.quantity = quantity;

}

public int compareTo(Book b) {

if(id>b.id){

return 1;

}else if(id<b.id){

return -1;

}else{

return 0;

}

}

}

public class LinkedListExample {

public static void main(String[] args) {

Queue<Book> queue=new PriorityQueue<Book>();

//Creating Books

Book b1=new Book(121,"Let us C","Yashwant Kanetkar","BPB",8);

Book b2=new Book(233,"Operating System","Galvin","Wiley",6);

Book b3=new Book(101,"Data Communications & Networking","Forouzan","Mc Graw Hill",4);

//Adding Books to the queue

queue.add(b1);

queue.add(b2);

queue.add(b3);

System.out.println("Traversing the queue elements:");

//Traversing queue elements

for(Book b:queue){

System.out.println(b.id+" "+b.name+" "+b.author+" "+b.publisher+" "+b.quantity);

}

queue.remove();

System.out.println("After removing one book record:");

for(Book b:queue){

System.out.println(b.id+" "+b.name+" "+b.author+" "+b.publisher+" "+b.quantity);

}

}

}

**ARRAY QUEUE:**

import java.util.\*;

class Book {

int id;

String name,author,publisher;

int quantity;

public Book(int id, String name, String author, String publisher, int quantity) {

this.id = id;

this.name = name;

this.author = author;

this.publisher = publisher;

this.quantity = quantity;

}

}

public class ArrayDequeExample {

public static void main(String[] args) {

Deque<Book> set=new ArrayDeque<Book>();

//Creating Books

Book b1=new Book(101,"Let us C","Yashwant Kanetkar","BPB",8);

Book b2=new Book(102,"Data Communications & Networking","Forouzan","Mc Graw Hill",4);

Book b3=new Book(103,"Operating System","Galvin","Wiley",6);

//Adding Books to Deque

set.add(b1);

set.add(b2);

set.add(b3);

//Traversing ArrayDeque

for(Book b:set){

System.out.println(b.id+" "+b.name+" "+b.author+" "+b.publisher+" "+b.quantity);

}

}

}