CISC 327 Assignment 5 Report

Cancel Ticket

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Cancel Ticket

Method: Basic block testing

Code Sections/Analysis of Test Cases:

Basic Block Testing Table (cancel ticket)	Class / location	Test covering the Block	Input	Output	code block

Method: cancelTicket()	Services				`public static Service cancelTicket(Service service, int ticketNum) throws InputOutOfRangeException {`
					`    // Check for negative cancel`
					`    if (ticketNum < 0) {`
					`        throw new InputOutOfRangeException("Error: Can not cancel negative number of tickets.");`
					`    }`
					
					`    if (service == null) {`
					`        throw new NullPointerException("Error: Can not cancel ticket on non existing service.");`
					`    }`
					
					`    service.setNumberSold(service.getNumberSold() - ticketNum);`
					`    return service;`
					`}`

ticket num < 0 check (block 1)		Test 1	- **Central Services File** containing:
			    - 11111 1000 2 Gucci 20181116
			- **Merged Transaction Summary File** containing:
			    - CAN 11111 -1 00000 Gucci 20181116
				- error thrown
				- empty central services file
				- empty valid services file
					`if (ticketNum < 0) {`
					`    throw new InputOutOfRangeException("Error: Can not cancel negative number of tickets.");`
					`}`

null service check (block 2)		Test 2	- **Empty Central Services File**
			- **Merged Transaction Summary File** containing:
			    - CAN 11112 2 00000 NotGucci 20181116
				- error thrown
				- empty central services file
				- empty valid services file
					`if (service == null) {`
					`    throw new NullPointerException("Error: Can not cancel ticket on non existing service.");`
					`}`

null pointer exception throw (block 3)		Test 2	- **Empty Central Services File** - **Merged Transaction Summary File** containing: - CAN 11112 2 00000 NotGucci 20181116	- error thrown - empty central services file - empty valid services file	`throw new NullPointerException("Error: Can not cancel ticket on non existing service.");`

cancel ticket operation (block 4)		Test 3	- **Central Services File** containing:
			    - 11111 1000 2 Gucci 20181116
			- **Merged Transaction Summary File** containing:
			    - CAN 11111 1 00000 Gucci 20181116
				- central services file with the new valid service
				- valid services file with new valid service number
					`service.setNumberSold(service.getNumberSold() - ticketNum);`
					`return service;`

Method: setNumberSold(int numberSold)	Service				public void setNumberSold(int numberSold) throws InputOutOfRangeException {
					    if (numberSold < 0) {
					        throw new InputOutOfRangeException("Error: Number of tickets sold can not be below 0.");
					    }
					    if (numberSold > this.capacity) {
					        throw new InputOutOfRangeException("Error: Number of tickets sold must be under capacity.");
					    }
					    this.numberSold = numberSold;
					}

number sold less than 0 check (block 5)		Test 4	- **Central Services File** containing:
			    - 11111 1000 2 Gucci 20181116
			- **Merged Transaction Summary File** containing:
			    - CAN 11111 3 00000 Gucci 20181116
				- error thrown
				- empty central services file
				- empty valid services file
					if (numberSold < 0) {
					    throw new InputOutOfRangeException("Error: Number of tickets sold can not be below 0.");
					}

input out of range exception throw number < 0 (block 6)		Test 4	- **Central Services File** containing:
			    - 11111 1000 2 Gucci 20181116
			- **Merged Transaction Summary File** containing:
			    - CAN 11111 3 00000 Gucci 20181116
				- error thrown
				- empty central services file
				- empty valid services file
					throw new InputOutOfRangeException("Error: Number of tickets sold can not be below 0.");

number sold greater than capacity check (block 7)		Unreachable code (no test)	- unreachable code	- none	if (numberSold > this.capacity) {
					    throw new InputOutOfRangeException("Error: Number of tickets sold must be under capacity.");
					}

input out of range exception throw number > capacity (block 8)		Unreachable code (no test)	- unreachable code	- none	throw new InputOutOfRangeException("Error: Number of tickets sold must be under capacity.");

set number sold attribute (block 9)		Test 3	- **Central Services File** containing:
			    - a valid service (11111 1000 2 Gucci 20181116)
			- **Merged Transaction Summary File** containing:
			    - cancel ticket with a valid service and a valid ticket num (CAN 11111 1 00000 Gucci 20181116)
				- central services file with the new valid service
				- valid services file with new valid service number
					this.numberSold = numberSold;

Method:
getNumberSold()
	Service				public int getNumberSold() {
					    return numberSold;
					}

return number sold (block 10)		Test 3	- **Central Services File** containing:
			    - 11111 1000 2 Gucci 20181116
			- **Merged Transaction Summary File** containing:
			    - CAN 11111 1 00000 Gucci 20181116
				- central services file with the new valid service
				- valid services file with new valid service number
					return numberSold;

Method:
InputOutOfRangeExcep
tion(String message)
	InputOut
	OfRange
	Exception
					public InputOutOfRangeException(String message) {
					    super(message);
					}

set message (input out of range exception) (block 11)		Test 1	- **Central Services File** containing:
			    - 11111 1000 2 Gucci 20181116
			- **Merged Transaction Summary File** containing:
			    - CAN 11111 -1 00000 Gucci 20181116
				- error thrown
				- empty central services file
				- empty valid services file
					super(message);

Method: readTSF(String tsfPath)
    - just the cancel ticket portion of this method
	Services				`// Cancel ticket`
					`else if (splitLine[0].equals("CAN")) {`
					`    try {`
					`        cancelTicket(findService(Integer.parseInt(splitLine[1])), Integer.parseInt(splitLine[2]));`
					`    }`
					`    catch (NumberFormatException e) {`
					`        br.close();`
					`        System.out.println(e.getMessage());`
					`        throw new InvalidInputFileException("Error: Invalid Central Service File.");`
					`    }`
					`    catch (InputOutOfRangeException e) {`
					`        br.close();`
					`        System.out.println(e.getMessage());`
					`        throw new InvalidInputFileException("Error: Invalid Central Service File.");`
					`    }`
					`}`

if (splitLine[0].equals("CAN"))
    - cancel ticket transaction code check (block 12)
		Test 3	**- Central Services File** containing:
			    - 11111 1000 2 Gucci 20181116
			- Merged Transaction Summary File containing:
			    - CAN 11111 1 00000 Gucci 20181116
				- central services file with the new valid service
				- valid services file with new valid service number
					`else if (splitLine[0].equals("CAN")) {`
					`    try {`
					`        cancelTicket(findService(Integer.parseInt(splitLine[1])), Integer.parseInt(splitLine[2]));`
					`    }`
					`    catch (NumberFormatException e) {`
					`        br.close();`
					`        System.out.println(e.getMessage());`
					`        throw new InvalidInputFileException("Error: Invalid Central Service File.");`
					`    }`
					`    catch (InputOutOfRangeException e) {`
					`        br.close();`
					`        System.out.println(e.getMessage());`
					`        throw new InvalidInputFileException("Error: Invalid Central Service File.");`
					`    }`
					`}`

valid cancel ticket with find service (block 13)		Test 3	**- Central Services File** containing:
			    - 11111 1000 2 Gucci 20181116
			- Merged Transaction Summary File containing:
			    - CAN 11111 1 00000 Gucci 20181116
				- central services file with the new valid service
				- valid services file with new valid service number
					`try {`
					`    cancelTicket(findService(Integer.parseInt(splitLine[1])), Integer.parseInt(splitLine[2]));`
					`}`

Method: findService(int serviceNum)					`public static Service findService(int serviceNum) {`
					`    int i = 0;`
					`    while (i < serviceList.size()) {`
					`        if (serviceList.get(i).getNumber() == serviceNum) {`
					`            return serviceList.get(i);`
					`        }`
					`        i++;`
					`    }`
					`    return null;`
					`}`

while loop (loop through list) (block 14)		Test 3	- **Central Services File** containing:
			    - 11111 1000 2 Gucci 20181116
			- **Merged Transaction Summary File** containing:
			    - CAN 11111 1 00000 Gucci 20181116
				- central services file with the new valid service
				- valid services file with new valid service number
					`int i = 0;`
					`while (i < serviceList.size()) {`
					`    if (serviceList.get(i).getNumber() == serviceNum) {`
					`        return serviceList.get(i);`
					`    }`
					`    i++;`
					`}`
					`return null;`

if service found in list (block 15)		Test 3	- **Central Services File** containing:
			    - 11111 1000 2 Gucci 20181116
			- **Merged Transaction Summary File** containing:
			    - CAN 11111 1 00000 Gucci 20181116
				- central services file with the new valid service
				- valid services file with new valid service number
					`if (serviceList.get(i).getNumber() == serviceNum) {`
					`    return serviceList.get(i);`
					`}`
					`i++;`

return found service (block 16)		Test 3	- **Central Services File** containing:
			    - 11111 1000 2 Gucci 20181116
			- **Merged Transaction Summary File** containing:
			    - CAN 11111 1 00000 Gucci 20181116
				- central services file with the new valid service
				- valid services file with new valid service number
					`return serviceList.get(i);`

no service object found (block 17)		Test 2	- **Empty Central Services File** - **Merged Transaction Summary File** containing: - CAN 11112 2 00000 NotGucci 20181116	- error thrown - empty central services file - empty valid services file	`return null;`

Test Inputs:

Test 1
(Blocks 1, 11)
	- **Central Services File** containing:
	  - 11111 1000 2 Gucci 20181116
	- **Merged Transaction Summary File** containing:
	  - CAN 11111 -1 00000 Gucci 20181116

Test 2 (Blocks 2, 3, 17)	- **Empty Central Services File** - **Merged Transaction Summary File** containing: - CAN 11112 2 00000 NotGucci 20181116

Test 3
(Blocks 4, 9, 10, 12,
13, 14, 15, 16)
	- **Central Services File** containing:
	  - 11111 1000 2 Gucci 20181116
	- **Merged Transaction Summary File** containing:
	  - CAN 11111 1 00000 Gucci 20181116

Test 4
(Blocks 5, 6)
	- **Central Services File** containing:
	  - 11111 1000 2 Gucci 20181116
	- **Merged Transaction Summary File** containing:
	  - CAN 11111 3 00000 Gucci 20181116

Test Report:

Test	Result	Fix
1	SUCCESS	-
2	FAILURE	Cancel ticket method being passed a null pointer without being caught. Added code to catch NullPointerException before calling method.
3	FAILURE	toString method for Date was flipping month and day inputs, and one of the service names in the expected outputs was misspelled ("Guicci" instead of "Gucci"). Fixed order of day and month in date toString method, and fixed spelling error.
4	SUCCESS	-