CSCI 3901: Software Development Concepts

Final Project

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Test Plan

Data Gathering Methods

Method 1 : boolean defineService(String serviceName, int inspectionFrequency)

S No.	Description of test cases(Property)	Property Input of data	Expected and outcome and it's side effects	Type of Test Case
1	If service name is null	String,	Return False	Input Validation
2	If the service name is Empty	String	Return False	Boundary Case
3	If the Inspection Frequency is Invalid	Integer	Return False	Input Validation
4	If only one service is added	String	it should return true	Data Flow
5	IIf adding more then one service	String	it should return true	Data Flow

6	If the service is repeated	String	it should return true	Data Flow
7	If there are black spaces in service name	String	Return False	Input Validation

Method 2:boolean defineShelter(String name, Point location, int maxCapacity, String staffInCharge)

S No.	Description of Test Cases (Property)	Property Input Data	Expected Outcome and Side Effects	Type of Test Case
1	If shelter name is null	String	Return False	Input Validation
2	If shelter name is empty	String	Return False	Boundary Case
3	If staff name is null	String	Return False	Input Validation
4	If staff name is empty	String	Return False	Boundary Case
5	If occupancy is invalid	Integer	Return False	Input Validation
6	If only one shelter is added	String	Return True	Data Flow
7	If staff member is not present	String	Return True	Data Flow

Method 3:boolean serviceForShelter(String shelterName, String serviceName)

S No.	Description of Test Cases (Property)	Property Input Data	Expected Outcome and Side Effects	Type of Test Case
1	If shelter name is null	String	Return False	Input Validation
2	If shelter name is empty	String	Return False	Boundary Case
3	If service name is null	String	Return False	Input Validation
4	If service name is empty	String	Return False	Boundary Case
5	If both shelter and service names are null	String	Return False	Input Validation
6	If both shelter and service names are empty	String	Return False	Input Validation
7	If service is present for a shelter	String	Return True	Data Flow
8	If service is not present for a shelter	String	Return False	Data Flow
9	If shelter is present for a service	String	Return True	Data Flow
10	If shelter is not present for a service	String	Return False	Data Flow

Method 4: boolean addStaff(String name, Set<String> services, boolean volunteer, String manager)

S No.	Description of Test Cases (Property)	Property Input Data	Expected Outcome and Side Effects	Type of Test Case
1	If staff name is null	String	Return False	Input Validation
2	If staff name is empty	String	Return False	Input Validation
3	If manager name is null	String	Return True	Data Flow
4	If manager name is not present	String	Return True	Data Flow
5	If manager name is present in DB	String	Return True	Data Flow
6	If single service is present	Set<String>	Return True	Data Flow
7	If multiple services are present	Set<String>	Return True	Data Flow
8	If staff information is updated	Set<String>	Return True	Data Flow
9	If staff services are updated	Set<String>	Return True	Data Flow
10	If staff is updated to a volunteer	boolean	Return True	Data Flow
11	If manager is updated	String	Return True	Data Flow
12	If manager is not present and updated	String	Return True	Data Flow

Method 5: boolean declareShelterOccupancy(String name, String date, int occupancy)

S No.	Description of Test Cases (Property)	Property Input Data	Expected Outcome and Side Effects	Type of Test Case
1	If shelter name is null	String	Return False	Input Validation
2	If date is null	String	Return False	Input Validation
3	If occupancy is negative	int	Return False	Input Validation
4	If all inputs are valid	String, String, int	Return True	Data Flow
5	If shelter name is empty	String	Return False	Input Validation
6	If date is empty	String	Return False	Input Validation
7	If all inputs are empty	String, String, int	Return False	Input Validation
8	If date is in an invalid format	String	Return False	Input Validation
9	If date is in the future	String	Return False	Input Validation
10	If date is in the past	String	Return True	Data Flow

Method 6: boolean defineDonor(String name, Point centralOffice, String contact, Set<String> fundingPrograms)

S No.	Description of Test Cases (Property)	Property Input Data	Expected Outcome and Side Effects	Type of Test Case
1	If donor name is null	String	Return False	Input Validation
2	If central office is null	Point	Return False	Input Validation
3	If contact information is null	String	Return False	Input Validation
4	If funding programs are null	Set<String>	Return False	Input Validation
5	If all inputs are valid	String, Point, String, Set<String>	Return True	Data Flow
6	If donor name is empty	String	Return False	Input Validation
7	If central office is at (0, 0)	Point	Return False	Input Validation
8	If contact information is empty	String	Return False	Input Validation
9	If funding programs are empty	Set<String>	Return False	Input Validation
10	If a single funding program is provided	Set<String>	Return True	Data Flow
11	If multiple funding programs are provided	Set<String>	Return True	Data Flow
12	If contact information is invalid	String	Return False	Input Validation
13	If donor name is repeated	String	Return False	Data Flow

Method 7: boolean receiveDonation(String donor, String fundingProgram, String date, int donation)

S No.	Description of Test Cases (Property)	Property Input Data	Expected Outcome and Side Effects	Type of Test Case
1	If donor name is null	String	Return False	Input Validation
2	If funding program is null	String	Return False	Input Validation
3	If donation date is null	String	Return False	Input Validation
4	If donation amount is negative	int	Return False	Input Validation
5	If all inputs are valid	String, String, String, int	Return True	Data Flow
6	If donor name is empty	String	Return False	Input Validation
7	If funding program is empty	String	Return False	Input Validation
8	If donation date is empty	String	Return False	Input Validation
9	If donation amount is zero	int	Return False	Input Validation
10	If a single valid donation is recorded	String, String, String, int	Return True	Data Flow
11	If multiple valid donations are recorded	String, String, String, int	Return True	Data Flow
12	If donation date is in an invalid format	String	Return False	Input Validation
13	If donor name is repeated	String	Return True	Data Flow/Control Flow

14	If funding program is repeated	String	Return True	Data Flow/Control Flow
15	If donation date is in the future	String	Return False	Input Validation/Control Flow
16	If donation date is in the past	String	Return True	Data Flow/Control Flow

Method 8: boolean disburseFunds(String shelterReceiving, String date, int funds)

S No.	Description of Test Cases (Property)	Property Input Data	Expected Outcome and Side Effects	Type of Test Case
1	If shelter receiving name is null	String	Return False	Input Validation
2	If disbursement date is null	String	Return False	Input Validation
3	If funds amount is negative	int	Return False	Input Validation
4	If all inputs are valid	String, String, int	Return True	Data Flow
5	If shelter receiving name is empty	String	Return False	Input Validation
6	If disbursement date is empty	String	Return False	Input Validation
7	If funds amount is zero	int	Return False	Input Validation
8	If a single valid disbursement is recorded	String, String, int	Return True	Data Flow

9	If disbursement date is in an invalid format	String	Return False	Input Validation/Control Flow
10	If disbursement date is in the future	String	Return False	Input Validation/Control Flow
11	If disbursement date is in the past	String	Return True	Data Flow/Control Flow

Reporting Methods

Method 1: boolean disburseFunds(String shelterReceiving, String date, int funds)

S No.	Description of Test Cases (Property)	Property Input Data	Expected Outcome and Side Effects	Type of Test Case
1	If threshold is negative	int	Return Empty Set	Input Validation
2	If threshold is zero	int	Return Empty Set	Input Validation
3	If threshold is positive	int	Return Set of Shelter Names	Data Flow
4	If threshold is greater than total occupancy	int	Return Empty Set	Input Validation/Control Flow
5	If threshold is equal to total occupancy	int	Return Empty Set	Input Validation/Control Flow

6	If threshold is less than total occupancy	int	Return Set of Shelter Names	Data Flow/Control Flow

Method 2: Set<String> occupancyVariance(String startDate, String endDate, int threshold)

S No.	Description of Test Cases (Property)	Property Input Data	Expected Outcome and Side Effects	Type of Test Case
1	If start date is null	String	Return Empty Set	Input Validation
2	If end date is null	String	Return Empty Set	Input Validation
3	If threshold is negative	int	Return Empty Set	Input Validation
4	If threshold is zero	int	Return Empty Set	Input Validation
5	If threshold is positive	int	Return Set of Shelter Names	Data Flow
6	If start date is after end date	String	Return Empty Set	Input Validation/Control Flow
7	If start date is equal to end date	String	Return Set of Shelter Names	Data Flow/Control Flow
8	If start date is before end date	String	Return Set of Shelter Names	Data Flow/Control Flow

Method 3: void donorReport(String startDate, String endDate, PrintWriter outstream)

S No.	Description of Test Cases (Property)	Property Input Data	Expected Outcome and Side Effects	Type of Test Case

1	If start date is null	String	Report is not generated	Input Validation
2	If end date is null	String	Report is not generated	Input Validation
3	If start date is after end date	String	Report is not generated	Input Validation/Control Flow
4	If start date is equal to end date	String	Report is generated for donors	Data Flow/Control Flow
5	If start date is before end date	String	Report is generated for donors	Data Flow/Control Flow
6	If outstream is null	PrintWriter	Report is not generated	Input Validation/Control Flow

Method 4: Set<String> underfundedShelter(String startDate, String endDate, int distance, int threshold)

S No.	Description of Test Cases (Property)	Property Input Data	Expected Outcome and Side Effects	Type of Test Case
1	If start date is null	String	Return Empty Set	Input Validation
2	If end date is null	String	Return Empty Set	Input Validation

3	If distance is negative	int	Return Empty Set	Input Validation
4	If threshold is negative	int	Return Empty Set	Input Validation
5	If start date is after end date	String	Return Empty Set	Input Validation/Control Flow
6	If start date is equal to end date	String	Return Set of Shelter Names	Data Flow/Control Flow
7	If start date is before end date	String	Return Set of Shelter Names	Data Flow/Control Flow

Method 5: Map<String, List<String>> inspectionSchedule(int scheduleDays, int inspectLimit)

S No.	Description of Test Cases (Property)	Property Input Data	Expected Outcome and Side Effects	Type of Test Case
1	If scheduleDays is negative	int	Return Empty Map	Input Validation
2	If inspectLimit is negative	int	Return Empty Map	Input Validation

3	If both scheduleDays and inspectLimit are negative	int, int	Return Empty Map	Input Validation
4	If both scheduleDays and inspectLimit are zero	int, int	Return Empty Map	Input Validation
5	If scheduleDays is positive and inspectLimit is zero	int, int	Return Empty Map	Input Validation/Control Flow
6	If scheduleDays is zero and inspectLimit is positive	int, int	Return Empty Map	Input Validation/Control Flow
7	If scheduleDays is positive and inspectLimit is positive	int, int	Return Map with Inspection Schedule	Data Flow/Control Flow