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Section:	B

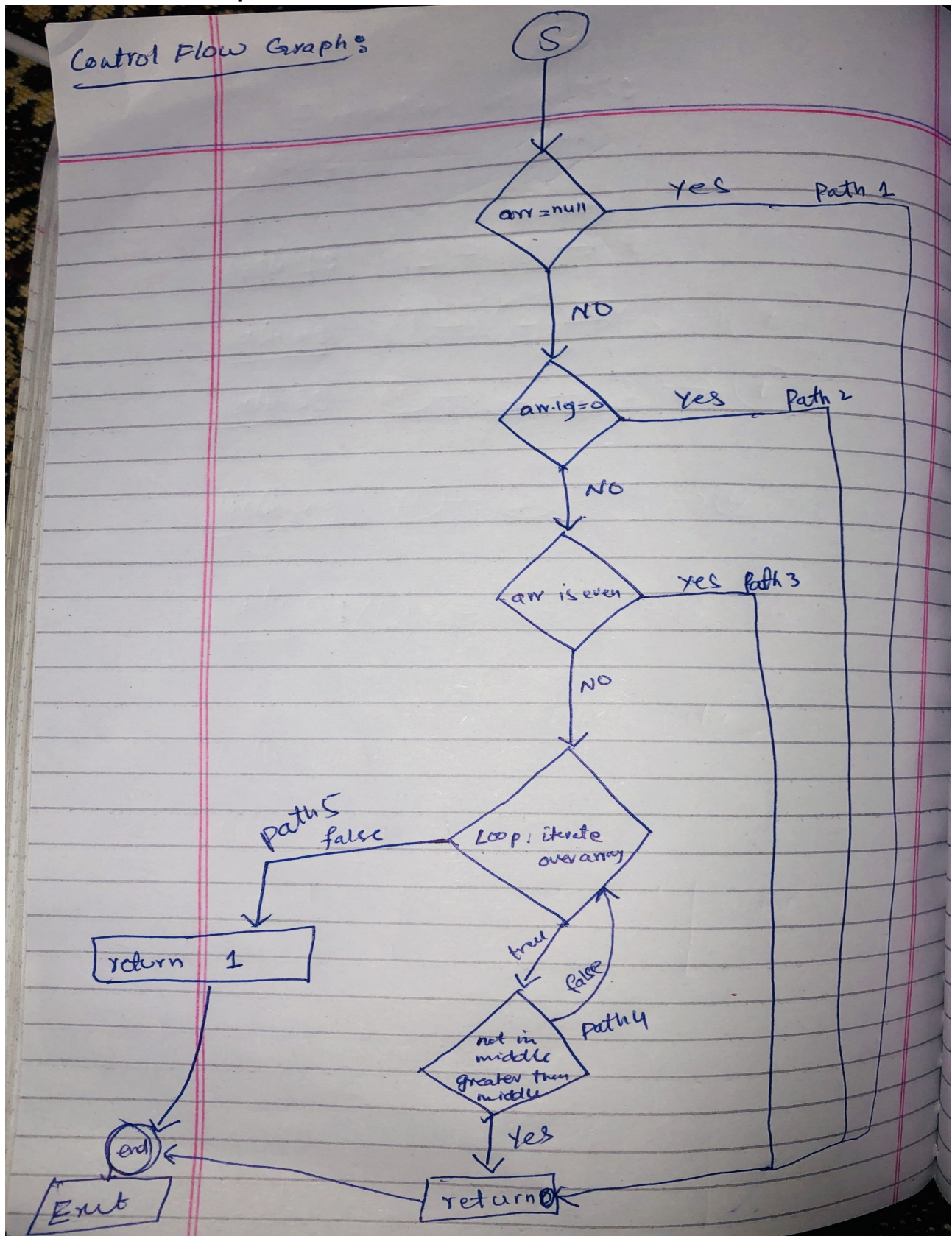
White Box Testing

An array with an odd number of elements is said to be centered if all elements (except the middle one) are strictly greater than the value of the middle element. Note that only arrays with an odd number of elements have a middle element. Write a function that accepts an integer array and returns 1 if it is a centered array, otherwise it returns 0.

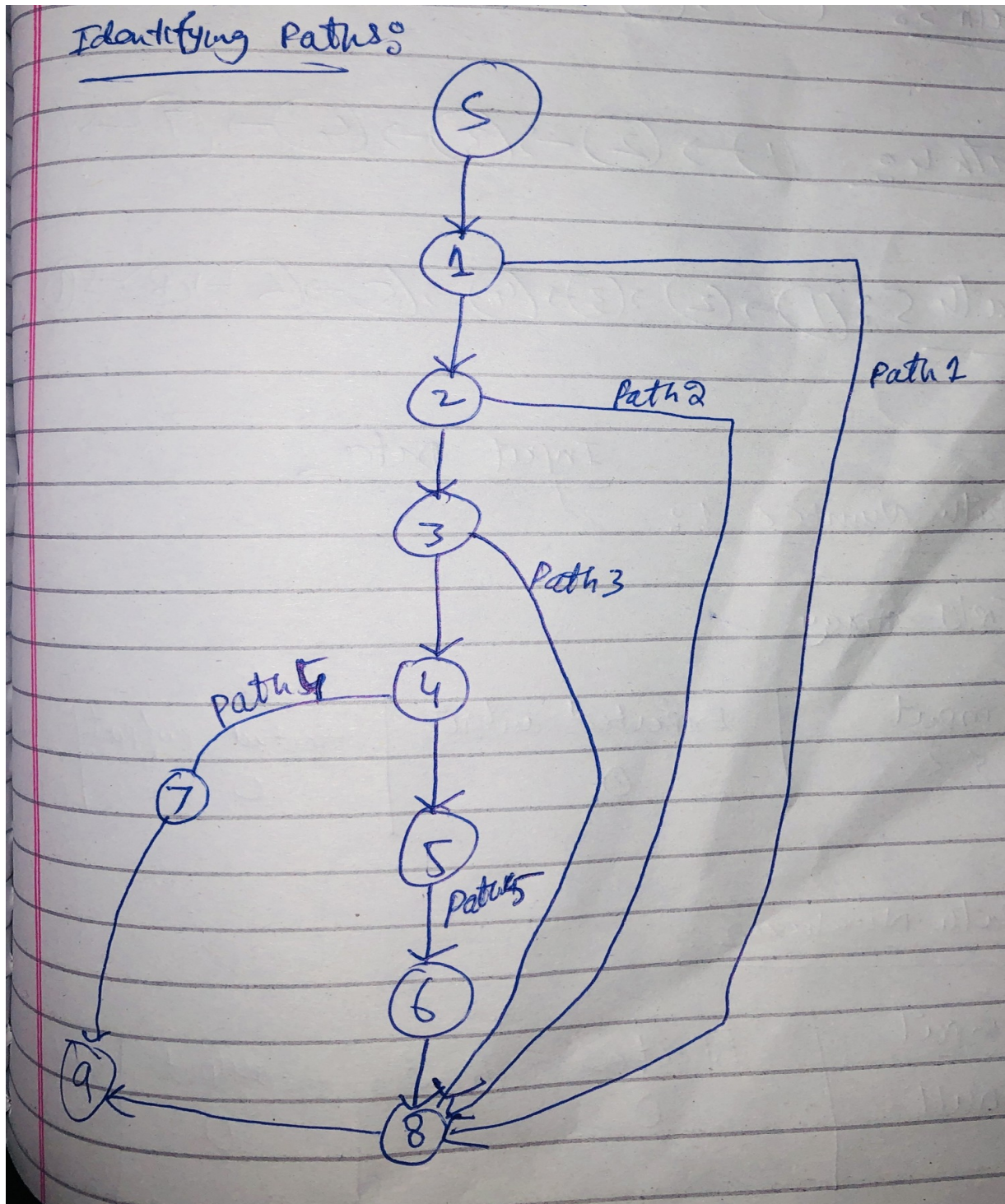
1. Program Unit:

```
public static int isCentered(int[] arr) {  
    if (arr == null || arr.length == 0) {  
        return 0;  
    }  
    if (arr.length % 2 == 0) {  
        return 0;  
    }  
    int middleIndex = arr.length / 2;  
  
    for (int i = 0; i < arr.length; i++) {  
        if (i != middleIndex && arr[i] <= arr[middleIndex]) {  
            return 0;  
        }  
    }  
    return 1;  
}
```

2. Control Flow Graph:



3. Identifying Execution instances (paths):



4. All Paths:

Execution instances:

Paths:

Path 1: (1) → (8) → (9)

Path 2: (1) → (2) → (8) → (9)

Path 3: (1) → (2) → (3) → (9)

Path 4: (1) → (2) → (3) → (4) → (7) → (9)

Path 5: (1) → (2) → (3) → (4) → (5) → (6) → (8) → (9)

5. Input Data:

<u>Input Data</u>			
① Path Number 1:			
Empty array			
input { 3 }	Expected output 0	Actual output 0	Status pass

② Path Number 2:			
input null	Expected Output 0	A. output 0	Status pass

③ Path Number 3:

Even length array

input { 1, 2, 3, 4 }	Expected outcome 0
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④ Path number 4:

odd-length centered

input { 3, 2, 1, 4, 5 }	Expected 1
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⑤ Path number 5:

odd-length Not Centered

input { 1, 3, 5, 7, 9 }	Expected 0
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