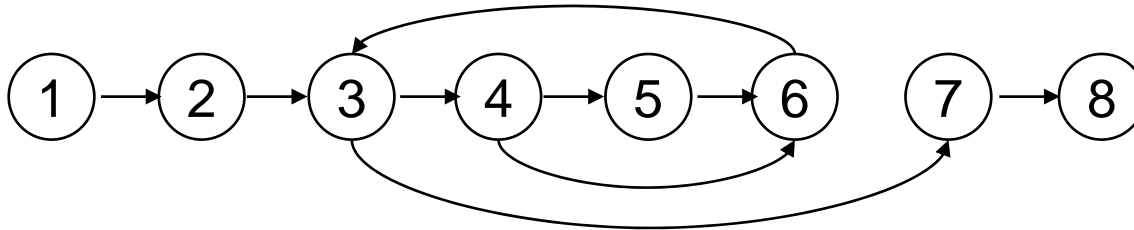


Structural Testing Example

```
float homeworkAverage(float[] scores)
1  { float min = 99999;
2    float total = 0;
3    for (int i=0; i<scores.length; i++)
4      {
5        if (scores[i] < min)
6          min = scores[i];
7        total += scores[i];
8      }
9    total = total - min;
10   return total / (scores.length - 1);
11 }
```



Testing Matrix

Test Case (Input)	Basis _____ Equivalence partitions	Expected Output	Notes

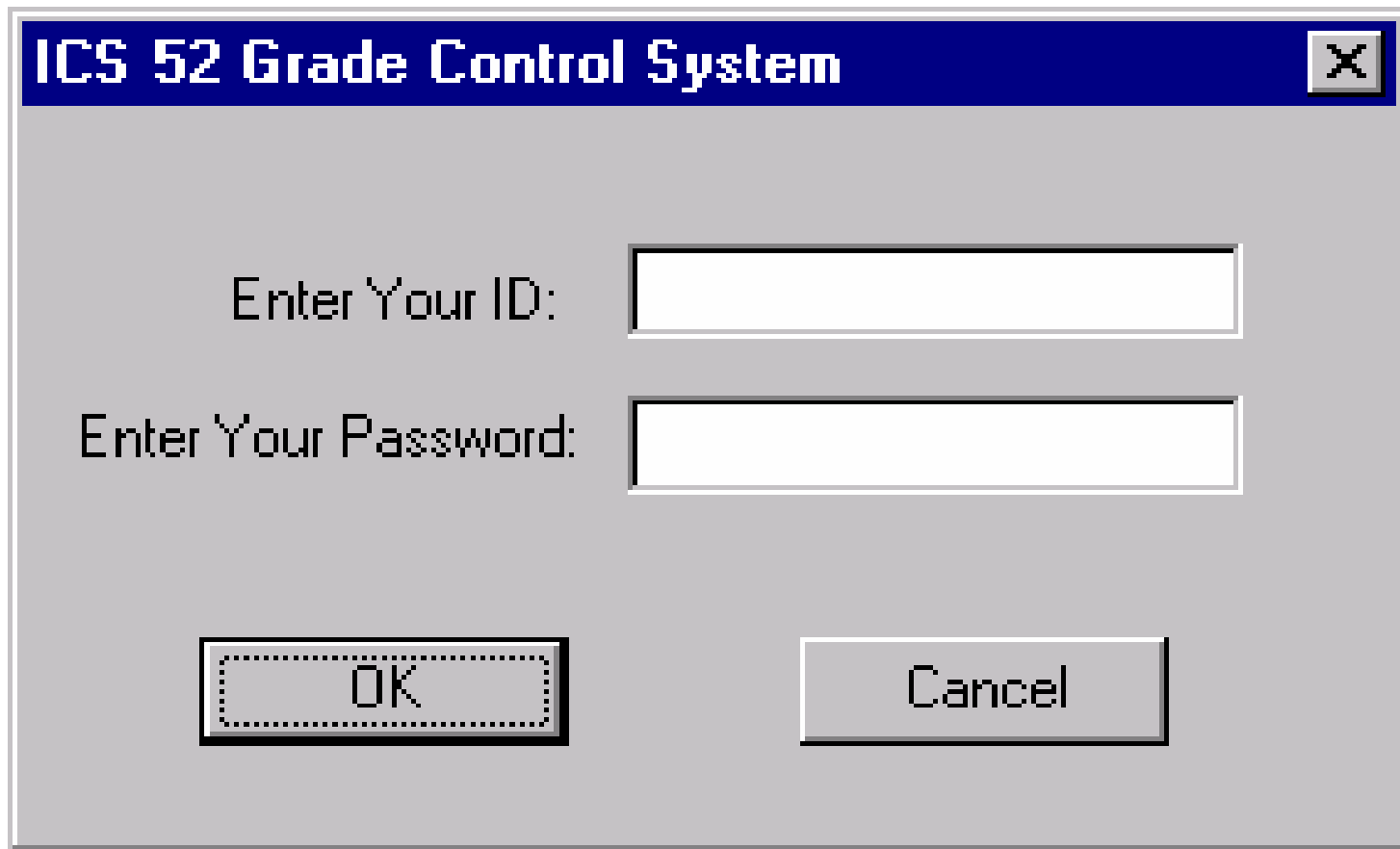
Testing Matrix - homeworkAverage 1

Test Case (Input)	Basis <u>Array length (black box)</u>				Expected Output	Notes
	Empty	One	Small	Large		
()	x				0.0	
(87.3)		x			87.3	
(90, 95, 85)			x		92.5	
(80,81,82,83, 84,85,86,87, 88,89,90,91)				x	86.0	

Testing Matrix - homeworkAverage 2

Test Case (Input)	Basis <u>Position of minimum (black box)</u>			Expected Output	Notes
	First	Middle	Last		
(80,87,88,89)	x			88.0	
(87,88,80,89)		x		88.0	
(99, 98, 0, 97, 96)		x		97.5	
(87,88,89,80)			x	88.0	

Security Dialog Example



ICS 52 Grade Control System

Enter Your ID:

Enter Your Password:

Testing Matrix - Security Dialog 1

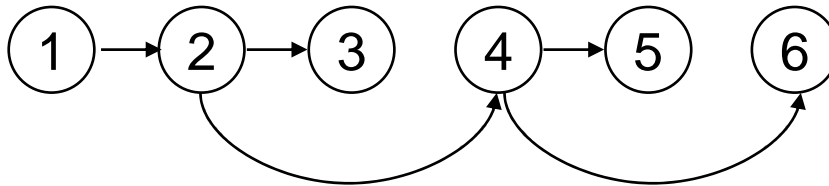
Test Case (Input)	Basis <u>Choice of Button (black box)</u>			Expected Output	Notes
	OK button	Cancel button	X		
Press OK	x			see Security Dialog #2	
Enter ID, press Cancel		x		Text boxes are cleared, dialog remains	
Don't enter ID, press Cancel		x		Same	

Testing Matrix - Security Dialog 2

Test Case (Input)	Basis <u>Correctness of Input, with OK</u>			Expected Output	Notes
	Valid ID, Correct PW	Valid ID, Incorrect PW	Inv. ID		
TEST1, 77775555	x			Proceed to Main screen	
TEST1, 7777555		x		Audible beep, dialog remains	
TES1, 77775555			x	Same	

Another Structural Testing Example

```
// In a linked list class
Node getSecondElement()
{
1   Node head = getHead();
2   if (head == null)
3       return null;
4   if (head.next == null)
5       return null;
6   return head.next.node;
}
```



Testing Matrix - getSecondElement (White)

Test Case (Input)	Basis <u>Node (white box)</u>						Expected Output	Notes
	1	2	3	4	5	6		
null list	x	x	x				null	
(A → null)	x	x		x	x		null	
(A → B → null)	x	x		x		x	B	
(A → B → C → null)	x	x		x		x	B	