Question 4

Decision table:

	Rule 1	**Rule 2**	**Rule 3**	**Rule 4**
Conditions				
landing	FALSE	TRUE	TRUE	TRUE
0.0 <= speed (mph) <= 149.9				Other values
150.0 <= speed (mph) <= 500.0		Y		
500.1 <= speed (mph) <= 1,000.0			Y	
0.0 <= altitude (feet) <= 1,000.0				
1,000.1 <= altitude (feet) <= 2,499.9		Y		
2,500.0 <= altitude (feet) <= 4,999.9			Y	
5,000.0 <= altitude (feet) <= 10,000.0				
Actions				
action	disengageRetro	deployPods	engageRetro	orbit
Table implements "first-of" rule				

Test case table:

Test Case Number	Inputs			Exp Out	Basis Path	MCDC	Comments
	landing	speed (mph)	altitude (ft.)	return			
1	TRUE	500.1	2,500.0	engageRetro	10-11-12-13-14-22	stmt 11-14 TTT	
2	FALSE	500.1	2,500.0	disengageRetro	10-21-22		
3	TRUE	500.1	2,499.9	orbit	10-11-12-22	stmt 11-14 TFT	
4	TRUE	149.9	2,499.9	orbit	10-11-16-22		
5	TRUE	500.1	5,000.0	orbit	10-11-12-13-22	stmt 11-14 TTF	
6	TRUE	150.0	1,000.0	orbit	10-11-16-17-22	stmt 16-19 TFT	
7	TRUE	150.0	2,500.0	orbit	10-11-16-17-18-22	stmt 16-19 TTF	
8	TRUE	150.0	1,000.1	deployPods	10-11-16-17-18-19-22	stmt 16-19 TTT	
9	TRUE	0.0	1,000.1	orbit	-		Extreme range test for speed
10	TRUE	1,000.0	1,000.1	orbit	-		Extreme range test for speed
11	TRUE	1000.0	0.0	orbit	-		Extreme range test for altitude

12	TRUE	1,000.0	10,000.0	orbit	-		Extreme range test for altitude
13	FALSE	500.1	4,999.9	disengageRetro	-	stmt 11-14 FTT	Missing MCDC
14	FALSE	149.9	1,000.1	disengageRetro	-	stmt 16-19 FTT	Missing MCDC

Code coverage achieved is: full boundary coverage, full statement coverage, full decision coverage and extreme range coverage.

The test cases support the description (logical expression).