Function 1 Requirements:

For further void check Academics( double Mmarks, double Fmarks)

* If marks of metric of person are equal to 50% and marks of FSC is 60%then person is not clear.
* If marks of metric less than 50% and and marks of FSC is are 60% then person is not clear.
* If marks of metric are equal to 50% and marks of FSC are 60% then person is clear.
* If marks of metric are greater than 50% and less than 100% and marks of FSC are greater than 60% and less than 100% the person is clear.

## Causes/Effects

C1: Mmarks = 50%

C2: Mmarks <50%

C3: Mmarks>50% and Mmarks <=100%

C4: Fmarks = 60%

C5: Fmarks<60%

C6: Fmarks>60% and Fmarks <=100%

E1:Clear

E2:Not Clear.

## Function 1 Graph:

**C1 AND E1**

**C2 AND**

**C3**

**C4 AND**

**C5 E2**

**C6 AND**

## Decision Table Function 1

|  |  |  |
| --- | --- | --- |
|  |  | **1 2 3 4** |
| **Condition/Cause** | **C1(Mmarks=50%)** | **1 0 1 0** |
| **Condition/Cause** | **C2(Mmarks<50%)** | **0 0 0 1** |
| **Condition/Cause** | **C3(Mmarks>50%andMmarks<=100%)** | **0 1 0 0** |
| **Condition/Cause** | **C4(Mmarks=60%)** | **1 0 0 1** |
| **Condition/Cause** | **C5(Fmarks<60%)** | **0 0 1 0** |
| **Condition/Cause** | **C6(Fmarks>60%andFmarks<=100%)** | **0 1 0 0** |
| **Action/Effort** | **E1 Clear** | **x x - -** |
| **Action/Effort** | **E2 not Clear** | * **- x x** |

## Test Cases Function 1

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Cases** | **Mmarks** | **Fmarks** | **ExpectedOutPut** |
| **1** | **60** | **105** | **Not Clear** |
| **2** | **70** | **48** | **Not Clear** |
| **3** | **110** | **85** | **Not Clear** |
| **4** | **35** | **66** | **Not Clear** |
| **5** | **102** | **103** | **Not Clear** |
| **6** | **40** | **20** | **Not Clear** |
| **7** | **115** | **30** | **Not Clear** |
| **8** | **10** | **118** | **Not Clear** |
| **9** | **75** | **65** | **Clear** |

* **We used the EQP technique to find out the test cases because in EQP we can guess the input by knowing the output of the cause we can test the every possible output of corresponding input as in this case we applied the strong robust EQP technique to find every possible teat case to test the function properly.**
* **While in BVA we do not have any idea that if we give input than what will be the output of that we provided, We can not guess the expected output in this case.**

# Function 2 Requirements

**Check Physique(Age,Height)**

* If Age of a Person is greater than 18 and height is equal to 5.6 than person is clear.
* If age of a person is greater and equal to 18 and less than equal to 24 and height is greater than equal to 5.6 and less than equal to 7.0 then person is clear.
* If age of a person is greater than equal to 18 and Height is less than 5.6 the person is not clear.
* If age of a person is less than 18 and Height is greater equal to 5.6 the person is clear.

## Causes: Effects

C1=Age>=18 E1=Clear

C2=Age<18 E2=Not clear

C3=Age>=18 and Age <=24

C4=Height>=5.6

C5=Height<5.6

C6=Height>=5.6 and Height <=7.0

## Graph

**C1 AND E1 C1,C4=E1**

**C2 AND C3,C6=E1**

**C3 C2,C5=E2**

**C4 AND C2,C4=E2**

**C5 E2**

**C6 AND**

## Decision TableF2

|  |  |  |
| --- | --- | --- |
|  |  | **1 2 3 4** |
| **Condition/Cause** | **C1** | **1 0 1 0** |
| **Condition/Cause** | **C2** | **0 0 0 1** |
| **Condition/Cause** | **C3** | **0 1 0 0** |
| **Condition/Cause** | **C4** | **1 0 0 1** |
| **Condition/Cause** | **C5** | **0 0 1 0** |
| **Condition/Cause** | **C6** | **0 1 0 0** |
| **Action/Effort** | **E1 Clear** | **x x - -** |
| **Action/Effort** | **E2 not Clear** | * **- x x** |

## Test CasesF2

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Cases** | **Age** | **Height** | **ExpectedOutPut** |
| **1** | **23** | **5.9** | **Clear** |
| **2** | **20** | **7.2** | **Not Clear** |
| **3** | **22** | **5.3** | **Not Clear** |
| **4** | **28** | **5.8** | **Not Clear** |
| **5** | **15** | **6.0** | **Not Clear** |
| **6** | **30** | **7.9** | **Not Clear** |
| **7** | **13** | **4.8** | **Not Clear** |
| **8** | **35** | **5.8** | **Not Clear** |
| **9** | **10** | **8.8** | **Not Clear** |

# Function 3 Requirements:

**Is changed in this Assignment according to feedback of assignment 1.**

**Checkbackground(Nationality,CriminalRec.,Married)**

* If a person is holding only Pakistani nationality with no criminal record

And the person is unmarried then the person is cleared.

* If the person is holding only Pakistani nationality with any criminal record (minor major) and is unmarried the person is not clear.
* If the person is holding only Pakistani nationality with no criminal record (minor major) and is married the person is not clear.
* If the person is holding only Pakistani nationality with no criminal record (minor major) and is unmarried the person is not clear.

## Causes: Effects

C1=Nationality=Pakistani E1=Clear

C2=Nationality=Not Pakistani E2=Not clear

C3=Criminal Rec=Yes

C4=Criminal Rec =No

C5=Married=Yes

C6=Married=No

## GraphF3

**C1 AND E1 C1,C4,C6=E1**

**C2 AND C1,C3,C6=E2**

**C3 C1,C4,C5=E2**

**C4 AND C2,C4,C6=E2**

**C5 E2**

**C6 AND**

## Decision TableF3

|  |  |  |
| --- | --- | --- |
|  |  | **1 2 3 4** |
| **Condition/Cause** | **C1** | **1 1 1 0** |
| **Condition/Cause** | **C2** | **0 0 0 1** |
| **Condition/Cause** | **C3** | **0 1 0 0** |
| **Condition/Cause** | **C4** | **1 0 1 1** |
| **Condition/Cause** | **C5** | **0 0 1 0** |
| **Condition/Cause** | **C6** | **1 1 0 1** |
| **Action/Effort** | **E1 Clear** | **x - - -** |
| **Action/Effort** | **E2 not Clear** | * **x x x** |

## Test CasesF3

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Cases** | **Nationality** | **Criminal Rec** | **Married** | **Expected OutPut** |
| **1** | **Pakistani** | **No** | **No** | **Clear** |
| **2** | **Pakistani** | **Yes** | **Yes** | **Not Clear** |
| **3** | **Not Pakistani** | **Yes** | **No** | **Not Clear** |
| **4** | **Pakistani** | **No** | **Yes** | **Not Clear** |
| **5** | **Not Pakistani** | **No** | **No** | **Not Clear** |
| **6** | **Not Pakistani** | **Yes** | **Yes** | **Not Clear** |