



SOFTWARE TESTING

Assignment # 02



GROUP MEMBERS

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Convocation Management System

On successful completion of a degree program, University issues a “Degree” and honors in a university convocation ceremony. This ceremony held annually for fresh graduates. Different distinguished guests address the students and advise them about their practical professional life. To invite students for convocation, University had set some criteria based on which students get to know 6 months before the convocation that if they had qualified for the convocation ceremony or not. There are three categories in which students lie; Qualified, Disqualified, and Not Applicable. Students lie in these categories concerning their departments criteria. There are three departments; Computer Science (CS), Mechanical Engineering (ME), Electrical Engineering (EE). For CS the criteria are set that student must be having CGPA of greater than 2.0, minimum credit hours should be equal to 152 and maximum semesters equals to 14. For ME the criteria are set that student must be having CGPA of greater than 2.0, minimum credit hours should be equal to 156 and a maximum semesters spent equals 14. For EE the criteria are set that student must be having CGPA of greater than 2.0, minimum credit hours should be equal to 160 and a maximum semesters spent equals 14. Moreover, the concerned department of scholarship reports the scholarships provided to the student. Students will be rewarded scholarships on three bases; if they achieve the 1st position then they will be granted with 75% scholarship, if they achieve 2nd position then they will be granted with 50% scholarship, and if they achieve 3rd position then they will be granted with 25% scholarship. Students registered with PGC scholarship will be given 25% scholarship by default, in any case of achieving the first 3 position the student will either be given position scholarship or the PGC scholarship.

Identification of Functions

- 1) Convocation Management
- 2) Scholarships
- 3)

Blackbox Testing

Worst Case BVA

ConvocationManagement(int credithours,float gpa,int semester)

Total Test case= $5^3=125$

| Case no | credithours | gpa | semester | Expected Result |
|----------------|--------------------|------------|-----------------|------------------------|
| 1 | 152 | 1.0 | 1 | disqualified |
| 2 | 152 | 1.0 | 2 | disqualified |
| 3 | 152 | 1.0 | 8 | disqualified |
| 4 | 152 | 1.0 | 13 | disqualified |
| 5 | 152 | 1.0 | 14 | Not applicable |
| 6 | 152 | 1.1 | 1 | disqualified |
| 7 | 152 | 1.1 | 2 | disqualified |
| 8 | 152 | 1.1 | 8 | disqualified |
| 9 | 152 | 1.1 | 13 | disqualified |
| 10 | 152 | 1.1 | 14 | Not applicable |
| 11 | 152 | 2.0 | 1 | disqualified |
| 12 | 152 | 2.0 | 2 | disqualified |
| 13 | 152 | 2.0 | 8 | qualified |
| 14 | 152 | 2.0 | 13 | qualified |
| 15 | 152 | 2.0 | 14 | Not applicable |
| 16 | 152 | 3.9 | 1 | disqualified |
| 17 | 152 | 3.9 | 2 | disqualified |
| 18 | 152 | 3.9 | 8 | qualified |

| | | | | |
|----|-----|-----|----|----------------|
| 19 | 152 | 3.9 | 13 | qualified |
| 20 | 152 | 3.9 | 14 | Not applicable |
| 21 | 152 | 4.0 | 1 | disqualified |
| 22 | 152 | 4.0 | 2 | disqualified |
| 23 | 152 | 4.0 | 8 | qualified |
| 24 | 152 | 4.0 | 13 | qualified |
| 25 | 152 | 4.0 | 14 | Not applicable |
| 26 | 153 | 1.0 | 1 | disqualified |
| 27 | 153 | 1.0 | 2 | disqualified |
| 28 | 153 | 1.0 | 8 | disqualified |
| 29 | 153 | 1.0 | 13 | disqualified |
| 30 | 153 | 1.0 | 14 | Not applicable |
| 31 | 153 | 1.1 | 1 | disqualified |
| 32 | 153 | 1.1 | 2 | disqualified |
| 33 | 153 | 1.1 | 8 | disqualified |
| 34 | 153 | 1.1 | 13 | disqualified |
| 35 | 153 | 1.1 | 14 | Not applicable |
| 36 | 153 | 2.0 | 1 | disqualified |
| 37 | 153 | 2.0 | 2 | disqualified |
| 38 | 153 | 2.0 | 8 | qualified |
| 39 | 153 | 2.0 | 13 | qualified |
| 40 | 153 | 2.0 | 14 | Not applicable |
| 41 | 153 | 3.9 | 1 | disqualified |
| 42 | 153 | 3.9 | 2 | disqualified |

| | | | | |
|----|-----|-----|----|----------------|
| 43 | 153 | 3.9 | 8 | qualified |
| 44 | 153 | 3.9 | 13 | qualified |
| 45 | 153 | 3.9 | 14 | Not applicable |
| 46 | 153 | 4.0 | 1 | disqualified |
| 47 | 153 | 4.0 | 2 | disqualified |
| 48 | 153 | 4.0 | 8 | qualified |
| 49 | 153 | 4.0 | 13 | qualified |
| 50 | 153 | 4.0 | 14 | Not applicable |
| 51 | 170 | 1.0 | 1 | disqualified |
| 52 | 170 | 1.0 | 2 | disqualified |
| 53 | 170 | 1.0 | 8 | disqualified |
| 54 | 170 | 1.0 | 13 | disqualified |
| 55 | 170 | 1.0 | 14 | Not applicable |
| 56 | 170 | 1.1 | 1 | disqualified |
| 57 | 170 | 1.1 | 2 | disqualified |
| 58 | 170 | 1.1 | 8 | disqualified |
| 59 | 170 | 1.1 | 13 | disqualified |
| 60 | 170 | 1.1 | 14 | Not applicable |
| 61 | 170 | 2.0 | 1 | disqualified |
| 62 | 170 | 2.0 | 2 | disqualified |
| 63 | 170 | 2.0 | 8 | qualified |

scholarships(int position, boolean PGC, float GPA)

Total Test case= $5^3=125$

| Case no | position | GPA | PGC | Expected Result |
|---------|----------|-----|-----|-----------------|
| 1 | 1 | 1.0 | 1 | 75% |
| 2 | 1 | 1.5 | 1 | 75% |
| 3 | 2 | 1.0 | 1 | 50% |
| 4 | 3 | 1.0 | 0 | 25% |
| 5 | 4 | 1.0 | 1 | 0% |
| 6 | 1 | 1.1 | 1 | 75% |
| 7 | 1 | 1.1 | 1 | 75% |
| 8 | 3 | 1.1 | 0 | 25% |
| 9 | 2 | 1.1 | 1 | 50% |
| 10 | 6 | 1.1 | 1 | 0% |
| 11 | 4 | 2.0 | 1 | 0% |
| 12 | 2 | 2.0 | 0 | 0% |
| 13 | 1 | 2.0 | 0 | 75% |
| 14 | 1 | 2.0 | 0 | 75% |
| 15 | 2 | 2.0 | 0 | 50% |
| 16 | 3 | 3.9 | 0 | 0% |
| 17 | 4 | 3.9 | 1 | 25% |
| 18 | 1 | 3.9 | 1 | 75% |
| 19 | 1 | 3.9 | 1 | 75% |

| | | | | |
|----|---|-----|---|-----|
| 20 | 3 | 3.9 | 1 | 25% |
| 21 | 2 | 4.0 | 1 | 50% |
| 22 | 6 | 4.0 | 0 | 0% |
| 23 | 4 | 4.0 | 1 | 25% |
| 24 | 2 | 4.0 | 1 | 25% |
| 25 | 1 | 4.0 | 1 | 75% |
| 26 | 1 | 1.0 | 0 | 75% |
| 27 | 2 | 1.0 | 1 | 50% |
| 28 | 3 | 1.0 | 1 | 25% |
| 29 | 4 | 1.0 | 1 | 25% |
| 30 | 1 | 1.0 | 0 | 75% |
| 31 | 1 | 1.1 | 0 | 75% |
| 32 | 3 | 1.1 | 0 | 25% |
| 33 | 2 | 1.1 | 0 | 50% |
| 34 | 6 | 1.1 | 0 | 0% |
| 35 | 4 | 1.1 | 1 | 25% |
| 36 | 2 | 2.0 | 1 | 50% |
| 37 | 1 | 2.0 | 1 | 75% |
| 38 | 1 | 2.0 | 1 | 75% |
| 39 | 2 | 2.0 | 1 | 50% |
| 40 | 3 | 2.0 | 0 | 25% |
| 41 | 4 | 3.9 | 1 | 25% |
| 42 | 1 | 3.9 | 1 | 75% |
| 43 | 1 | 3.9 | 1 | 75% |

| | | | | |
|----|---|-----|---|-----|
| 44 | 3 | 3.9 | 0 | 25% |
| 45 | 2 | 3.9 | 1 | 50% |
| 46 | 6 | 4.0 | 1 | 25% |
| 47 | 4 | 4.0 | 1 | 25% |
| 48 | 2 | 4.0 | 0 | 50% |
| 49 | 1 | 4.0 | 0 | 75% |
| 50 | 1 | 4.0 | 0 | 75% |
| 51 | 2 | 1.0 | 0 | 50% |
| 52 | 3 | 1.0 | 0 | 25% |
| 53 | 4 | 1.0 | 1 | 0% |
| 54 | 1 | 1.0 | 1 | 75% |
| 55 | 1 | 1.0 | 1 | 75% |
| 56 | 3 | 1.1 | 1 | 25% |
| 57 | 2 | 1.1 | 1 | 50% |
| 58 | 6 | 1.1 | 0 | 0% |
| 59 | 4 | 1.1 | 1 | 0% |
| 60 | 2 | 1.1 | 1 | 50% |
| 61 | 1 | 2.0 | 1 | 75% |
| 62 | 1 | 2.0 | 0 | 75% |
| 63 | 2 | 2.0 | 1 | 50% |

int feetax(int feeCharges, int busCharges)

Total Test case=5^2=25

| Case no | busCharges | feeCharges | Expected Result |
|---------|------------|------------|-----------------|
| 1 | 1 | 1 | 0 |
| 2 | 1 | 2 | 0 |
| 3 | 1 | 100000 | 10000 |
| 4 | 1 | 299999 | 30000 |
| 5 | 1 | 300000 | 30000 |
| 6 | 2 | 1 | 0 |
| 7 | 2 | 2 | 0 |
| 8 | 2 | 100000 | 10000 |
| 9 | 2 | 299999 | 30000 |
| 10 | 2 | 300000 | 30000 |
| 11 | 10000 | 1 | 0 |
| 12 | 10000 | 2 | 0 |
| 13 | 10000 | 100000 | 10000 |