

CENG437 - Software Quality Management Homework#5

1-)

Unit Test Defects: 163

Integration Test Defects: 186

System Test Defects: 271

Total Defects: 620

$DRE = \text{Total Defects} / \text{Total Defects} + \text{Fault Seeding}$

$DRE = 620 / 620 + 57 = \%91, 58$

$DRE_{\text{system test}} = 271 / 349 = \%77, 65$

2-)

Phase Injected	Phase Discovered							
	Requirements	High-Level Design	Detailed Design	Coding	Unit Testing	Integration Testing	System Testing	Acceptance Testing
Requirements	0	1	2	4	6	8	10	14
High-Level Design		0	1	2	4	6	8	12
Detailed Design			0	1	2	4	6	10
Coding				0	1	2	4	8

Scale for defect age

Phase Injected	Phase Discovered								Total Defects
	Requirements	High-Level Design	Detailed Design	Coding	Unit Testing	Integration Testing	System Testing	Acceptance Testing	
Requirements	0	16	8	3	0	0	2	3	32
High-Level Design		0	21	14	2	2	1	1	41
Detailed Design			0	38	7	5	0	0	50
Coding				0	96	56	2	2	156
Total	0	16	29	55	105	63	5	6	279

Defect injection and versus discovery on project Boomerang

Phase Injected	Phase Discovered								Weight	Total Defects	Spoliage
	Requirements	High-Level Design	Detailed Design	Coding	Unit Testing	Integration Testing	System Testing	Acceptance Testing			
Requirements	0	16	16	12	0	0	20	42	106	32	3,3125
High-Level Design		0	21	28	8	12	8	12	89	41	2,170732
Detailed Design			0	38	14	20	0	0	72	50	1,44
Coding				0	96	112	8	16	232	156	1,487179
Total	0	16	37	78	118	144	36	70	499	279	1,78853

Number of defects weighted by defect age on project Boomerang

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