Regression Testing

Selective retesting to verify that modifications have not caused unintended effects. Still complies with its specified requirements. Should be performed any time you modify implementation within a program. You can do so by rerunning existing tests against the modified code.
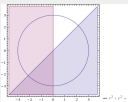
Pairwise Example

Let X, Y, Z **and V** denote the three input variables and {1, 2, 3}, {a, b, c}, {T, F}, **{0, 1}** their respective sets of values. Create test cases according to the pair-wise approach

	X	Y	Z	V
t1	1	a	T	1
t2	1	b	F	1
t3	1	c	T	0
t4	2	a	-	0
t5	2	b	T	1
t6	2	c	F	0
t7	3	a	F	
t8	3	b	-	0
t9	3	c	T	1

We need all pairs (Z,V):
(T,1)
(T,0)
(F,1)
(F,0)

$x^2 + y^2 = 9$

SRS should be

Consistent

Unambiguous

Correct

Traceable

Each Choice II

Each Choice

Each Choice: The value from each level for each factor must be used in at least one test case.

Four variables:

X: 1, 2, 3, 4, 5

Y: a, b, c

Z: true, false

T: 50, 100, 150, 200

	X	Y	Z	T
Test 1	1	a	true	50
Test 2	2	b	false	100
Test 3	3	c	*	150
Test 4	4	*	*	200
Test 5	5	*	*	*

Verification

Process of determining whether the requirements for a system/component are complete and correct, the products of each development phase fulfill the requirements or conditions imposed by the previous phase, and the final system or component complies with specified requirements. Testing is a part of verification and validation.

Fault & Failure

Fault	Failure
Reason for failure	Result of fault
Reveals fault when oracle and test result differ	External behavior of a system does not conform to that prescribed in the system specification
Incorrect step, process, data definition	Inability to perform required functions within specified performance requirements

Circle Answers

(0,0)	(0,3)

(3/sqrt(2), 3/sqrt(2))

SRS

Set of WHAT the system should do

NOT how the system should do it

Has irrelevant parts for small projects

Discusses essential parts

Alternate template formats

Every input & every output

All requirements to a level of detail sufficient to enable designers to design a system and testers to test a system

Base Choice I

- Dest: La, London, Paris, Chicago, NY
- Type: Dom, Intl
- M: 1000, 2000, 3000, 10000
- Direct: Y, N
- Class: E, B, F

	Dest	Type	M	Direct	Class
t1	NY	Dom	2000	Y	E
t2	LA	Dom	2000	Y	E
t3	London	Dom	2000	Y	E
t4	Paris	Dom	2000	Y	E
t5	Chicago	Dom	2000	Y	E
t6	NY	Int	2000	Y	E
t7	NY	Dom	1000	Y	E
t8	NY	Dom	3000	Y	E
t9	NY	Dom	10000	Y	E
t10	NY	Dom	2000	N	E
t11	NY	Dom	2000	Y	B
t12	NY	Dom	2000	Y	F

Test Oracle

A source to determine expected results of testing.

Test Case

A pair of an input and expected outcome. A set of test inputs, execution conditions, and expected results.

Testability

Degree 2 which a system or component facilitates the establishment of test criteria and the performance of tests, system or component facilitates the establishment of test criteria and the performance to tests to determine whether those criteria have been met, requirement is stated in terms that permit establishment of test criteria and performance of tests to determine whether those criteria have been met.

Each Choice

- Testing the same application in different situations:
  - Browser: "IE", "Firefox", "Opera", "Safari"
  - Operating system: "Vista", "XP", "Windows 7", "Unix", "Linux"
  - Printer: "Local", "Networked"
  - Connection: "Dial-up", "DSL", "LAN"

  Total number of combinations – **4 x 5 x 2 x 3 = 120**

Base Choice II

- **Number of test cases?**

Best choice:	1
For Dest:	4
For Type:	1
For M:	3
For Direct:	1
For Class:	2
Total:	12