Tabular Expression-Based Testing Strategies: A Comparison

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Tabular Expressions

- Clear
- Precise
- Help in thinking
- Help in inspection
- …

I like it.

Developers

Specifications in tabular expressions

	true	false
$MonthType(month)$ $= M\_31$	$day < 1 \lor day > 31$	$day \geq 1 \land day \leq 31$
$MonthType(month)$ $= M\_30$	$day < 1 \lor day > 30$	$day \geq 1 \land day \leq 30$
$MonthType(month)$ $= M\_28\_29$	$day < 1 \lor (day > 29 \land$ $YearType(year) = LeapYear) \lor (day$ $> 28 \land YearType(year) =$ $CommonYear)$	$day \geq 1 \land ((day \leq 29 \land$ $YearType(year) = LeapYear) \lor$ $(day \leq 28 \land YearType(year) =$ $CommonYear))$

$\land \neg(YearError(year) \lor MonthError(month))$

- One Cell One Test Case
- Decision Table Testing
- …

Which one?

Testers

- One Cell One Test Case
- Decision Table Testing
- …

Better one?

Researchers

Relative Effectiveness

	One Cell One Test Case	Decision Table Testing	Basic Meaningful Impact Strategy	Fault-Based Testing
One Cell One Test Case	=	-	-	-
Decision Table Testing	▸ (NDSP) or ~ (DSP)	=	-	-
Basic Meaningful Impact Strategy	▸ (NDSP) or ~ (DSP)	▸	=	▷
Fault-Based Testing	▷ (NDSP) or ~ (DSP)	▷	▷	=

▸	:	Unconditionally subsume
▷	:	Conditionally subsume
=	:	Equivalent
~	:	Incomparable

| NDSP | : | Specifications without duplicated expressions |
| DSP | : | Specifications with duplicated expressions |

No one strategy is the strongest for all specifications.