

Steps

- Examine each functiona-litps•

Steps

Steps

- Develop “Formal Test Specification” for each functional unit
 - List of categories
 - Lists of choices within each category

0 - 204 204 0 440.520.81 - 604 0 4strain of jTT.

Related Techniques

- **Condition-table Method**
 - Conditions are categories
 - Value set for each condition is the set of choices
 - Constraints are restricted to categories
- **Cause-effect graph**
 - Identification of functions
 - Identify causes that influence the function's behavior
 - And all effects
 - Construct a graph that relates causes to effects

Related Techniques

- **Revealing Sub-domains**

- Contains elements that are either all processed correctly or all incorrectly
- Executing one element of the sub-domain is sufficient
- Error specific, not general

- **Equivalence Partitioning**

- Partition function's input domain into a procedure partition
- Uses both specifications and code

Representation

- E1 OP E2
 - (E1 - E2) OP 0
- If the branch statement contains a Boolean variable, represent
 - TRUE value by a +ve number
 - FALSE value by a -ve number
- If (A) then ...
 - If (A \geq 0) then ...
- (A AND B)
 - Both ((A \geq 0) and (B \geq 0))
- (A OR B)
 - Either ((A \geq 0) or (B \geq 0))

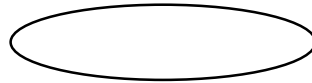
Predicate Slice

- Definition:

—

$$w=u$$

$$w=y$$



Values of x, y, z

$$w = u$$



Example

- VCR command-line software

Preconditions & Effects

- **Rewind**
 - Precondition: `end_of_tape`
 - Effects: `¬end_of_tape`
- **Play**
 - Precondition: `¬end_of_tape`
 - Effects: `end_of_tape`
- **Eject**
 - Precondition: `end_of_tape`
 - Effects: `¬has_tape`
- **Load**
 - Precondition: `¬has_tape`
 - Effects: `has_tape`

Initial and Goal States

Initial and Goal States

- Initial State
 - $\neg \text{end_of_tape} \ \& \ \text{has_tape}$
- Goal State
 - $\neg \text{has_tape}$
- Plan?
 - Play
 - Eject