Control Flow Criteria

Path	Execute every possible path of the program (all variable values and combinations), in general not achievable in programs with loops
Statement	Execute every program statement at least once
Decision	Exercise every decision(boolean expression) outcome at least once
Condition	Every sub-expression (atom) outcome is exercised e.g. `((x>0)&&(y>0))`: each `x>0` *and* `y>0` must both evaluate to true and false
Condition/ Decision	Combination of Condition and Decision Coverage Cover all condition outcomes + cover all decision outcomes
MC / DC:	Each condition outcome must affect the decision outcome independently. E.g. `((x>0)&&(y>0))`: MC/DC is achieved if there are the following outcomes for the atoms (`x>0,y>0`): (0,1), (1,0), (1,1). This is because with the fourth possiblilty (0,0), the outcome cannot be changed by flipping the value of one atom.

Data Flow Criteria

A path from a value definition to a use of the value is *def-clear*, if no program location is visited twice and there is no redefinition of the value.

For each definition of variable x and for every $\ell \in \mathsf{defs}(x)$, the test suite traverses:

all-defs	One path to some $\ell' \in (\mathsf{dpu}(\ell, x) \cup \mathsf{dcu}(\ell, x))$. $\Rightarrow$ All definitions get used at least once. Cannot be vacuously true!
all-c-uses	One path to each $\ell' \in \mathsf{dcu}(\ell, x)$. $\Rightarrow$ All computations affected by each definition are executed. Vacuously true if there is no c-use for a definition.
all-p-uses	One path to each $\ell' \in \mathsf{dpu}(\ell, x)$ $\Rightarrow$ All decisions affected by each definition are executed. Vacuously true if there is no p-use for a definition.
all-c-uses/ some-p-uses	all-defs and all-c-uses. If a definition is not used in a c-use (all-c-uses is vacuously true), it has to be used in a p-use.
all-p-uses/ some-c-uses	all-defs and all-p-uses. If a definition is not used in a p-use (all-p-uses is vacuously true), it has to be used in a c-use.
all-uses	One path to each $\ell' \in (\mathsf{dpu}(\ell, x) \cup \mathsf{dcu}(\ell, x))$. $\Rightarrow$ every computation and decision affected by definition executed
all-du-paths	All paths to each $\ell' \in (\mathsf{dpu}(\ell, x) \cup \mathsf{dcu}(\ell, x))$. $\Rightarrow$ like all-uses but *all* def-use paths

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                        all-paths
                            |
                       all-du-paths
                            |
                         all-uses
                    /                \
   all-c-uses/some-p-uses        all-p-uses/some-c-uses
            |            \      /            |
       all-c-uses         all-defs        all-p-uses
```