BNF Inter and Intra Name Convention

NameStandard = [FileNameStandard | ProcedureNameStandard | VariableNameStandard];

File Name Standard

FileNameStandard = [SourceNameStandard | IONameStandard];

SourceNameStandard = [ProcedureName | ProcedureGroupName], '.f90';

IONameStandard = DirectoryName, '/', {DirectoryName, '/'}, IOFileName;

Procedure Name Standard

ProcedureNameStandard = InterProcedureName;

InterProcedureName = Module, '_', IntraProcedureName;

Module = [PhysicsModule | SoftwareModule];

PhysicsModule = ['SP' (*Solar Energetic Particles*) |
'SC' (*Solar Coronal*) |
'EE' (*Eruptive Event*) |
'CE' (*Cometary Environment*) |
'IH' (*Inner Heliosphere*) |
'OH' (*Outer Heliosphere*) |
'IN' (*Interstellar Neutrals*) |
'PS' (*Planetary Satellites*) |
'PW' (*Polar Wind*) |
'IM' (*Inner Magnetosphere*) |
'GM' (*Global Magnetosphere*) |
'PL' (*Plasmasphere*) |
'RB' (*Radiation Belts*) |
'IO' (*Ionosphere*) |
'IE' (*Ionospheric Electrodynamics*) |
'TH' (*Thermosphere*) |
'MH' (*Magneto HydroDynamic*)];

SoftwareModule = Ucase, [Ucase | Numeric], {Ucase | Numeric};

IntraProcedureName = ProcedureNamePart, {'_', ProcedureNamePart};

ProcedureNamePart = Lcase, {Lcase | Numeric};

Variable Name Standard

VariableNameStandard = InterModuleVariableName;

InterModuleVariableName = Prefix , IntraModuleVariableName;

Prefix = PhysicsModule, Type, {Dimension}, '_';

Type = ['b' (*bit/boolean*) |
'h' (*2 byte integer*) |
'i' (*4 byte (or default) integer*) |
'j' (*8 byte (or long) integer*) |
'r' (*real*) |
'd' (*double precision real*) |
'c' (*character*) |
's' (*string*) |
'e' (*enumerated value*) |
't' (*type (structure)*)];

Dimension = ['1' | '2' | '3' | '4' | '5' | '6' | '7' | '8' | '9'];

IntraModuleVariableName = [NamedIndex | VariableName];

NamedIndex = FirstNamePart, {NamePart}, '_';

VariableName = IntraType, {DescriptiveName}, {Scope}, {'_', ArrayIndexName, {ArrayIndexName}};

IntraType = [Logical | Integer | CharacterString | Real];

Logical = ['Do' | 'Test' | 'Use' | 'Used' | 'Unused' | 'True' | 'Boolean' | …];

Integer = ['i' | 'j' | 'k' | 'n' | 'Dn' | 'Max' | 'Min' | 'Int' | …];

CharacterString = ['Type' | 'Name' | 'String' | 'Str'];

Real = FirstNamePart – Logical – Integer - CharacterString;

DescriptiveName = NamePart, {NamePart};

FirstNamePart = [Lcase | NamePart];

NamePart = Ucase, {Lcase | Numeric};

Scope = ['BLK' (*Block*) |
'PE' (*One Processing Element*) |
'ALL' (*All Processing Elements used by the Module*)];

ArrayIndexName = [‘C’ (*Physical Cells*) |
‘G’ (*Ghost Cells*) |
‘F’ (*Faces*) |
‘X’ (*X Faces*) |
‘Y’ (*Y Faces*) |
‘Z’ (*Z Faces*) |
‘D’ (*Dimensions*) |
‘S’ (*Sides*) |
‘E’ (*Edges*) |
‘V’ (*Variables*) |
‘B’ (*Local Blocks*) |
‘A’ (*Global Blocks*) |
‘P’ (*Processors*) |
‘I’ (*General Index (none of the above)*)];

Ucase = [‘A’ | ‘B’ | ‘C’ | ‘D’ | ‘E’ | ‘F’ | ‘G’ | ‘H’ | ‘I’ | ‘J’ | ‘K’ | ‘L’ | ‘M’ | ‘N’ | ‘O’ | ‘P’ | ‘Q’ | ‘R’ | ‘S’ | ‘T’ | ‘U’ | ‘V’ | ‘W’ | ‘X’ | ‘Y’ | ‘Z’];

Lcase = [‘a’ | ‘b’ | ‘c’ | ‘d’ | ‘e’ | ‘f’ | ‘g’ | ‘h’ | ‘i’ | ‘j’ | ‘k’ | ‘l’ | ‘m’ | ‘n’ | ‘o’ | ‘p’ | ‘q’ | ‘r’ | ‘s’ | ‘t’ | ‘u’ | ‘v’ | ‘w’ | ‘x’ | ‘y’ | ‘z’];

Numeric = [‘0’ | ‘1’ | ‘2’ | ‘3’ | ‘4’ | ‘5’ | ‘6’ | ‘7’ | ‘8’ | ‘9’];

Notation Description

Terminal character = ';'

Optional = [and] with '|'

Repetition = { and } with '*'

Concatenate = ','

Except = '-'

Group = (and)

Comment = (* and *)

Example

Symbol	Definition	Strings
aa	'A';	A
bb	3 * aa, 'B';	AAAB
cc	3 * [aa], 'C';	C AC AAC AAAC
dd	{aa}, 'D';	D AD AAD AAAD AAAAD etc.
ee	aa, {aa}, 'E';	AE AAE AAAE AAAAE AAAAAE etc.
ff	3 * aa, 3 * [aa], 'F';	AAAF AAAAF AAAAAF AAAAAAF
gg	3 * {aa}, 'D';	syntactically valid, but not sensible. Logically identical to dd