FORTRAN Cheat-Sheet

Program

```
program name
declarations
parameter statements
common statements
statements
stop
end
subprograms
```

Declarations

```
type variableNames

integer J, K, L(10)
real A, B, C(0:15)
character*1 D
character*60 Line
```

Parameter Statement

```
parameter (variable=value)

parameter (G = 9.8, C = 4)
```

Assignment Statement

```
variable = expression

I = J + K - L
X = A ** K
```

Call Statement

```
call subroutineName

call Examp
```

Do Statement

```
do label id = start, stop, step
    statements
label continue

  do 100 I = 1, N, 2
    read *, A, B
    print *, A, B
100 continue
```

If Statement

```
if (logicalExpression) then
    statements
elseif (logicalExpression) then
    statements
else
    statements
endif

if (X.lt.0) then
    print *, 'Negative'
elseif (X.eq.0) then
    print *, 'Zero'
else
    print *, 'Positive'
endif
```

Logical Expression

```
variable comparisonOperator variable
where comparisonOperator is one of:
.eq. .ne. .lt. .le. .gt. .ge.

X .eq. 0
```

Print Statement

print *, *outputList*

print *, 'Hello World'

Read Statement

read *, *variableList*

read *, X, Y, I, J

Write Statement

write (*unit, stmtNumber*) *variableList*
write (*unit, formatSpecification*) *list*

write (6, 100) I, J, A

Format Statement

stmtNumber format(*formatCodeList*)

100 format (1X, I3, F7.2, A10)

Implied Do Loop

itemList, index=start, stop)

print *, ('?', I = 1,10)

Subroutine with Parameters

subroutine *name*(*parameter names*)
declaration of parameters
statements
return
end

subroutine Alter (X,Y)
real X,Y
X = 3.56 * Y
return
end

Function Header

type function *id* (*parameters*)
declarations
statements
return
end

real function Divide (X, Y)
real X, Y
Divide = X / Y
return

Assignment to and Reference of Arrays

arrayName(*index*) = *expression*
variable = *arrayName*(*index*)

A(I) = 3 * J + 2
A(2*I+1) = 54

Passing Arrays to Subprograms

real A(10)
call Examp(10, A)

subroutine Examp(N, A)
integer N
real A(N)