# Simple Programs

```
!  HelloWorld.f90
program HelloWorld
    implicit none

    print *, 'Hello World'

end program HelloWorld
```

---

```
!  Addition.f90
module globals
    implicit none
    save

    integer, parameter:: dble = kind(1d0)

end module globals

program Addition
    use globals
    implicit none

    integer x,y,z
    x = 5
    y = 2
    z = x + y
    print *, "x =", x
    print *, "y =", y
    print *, "z =", z

end program Addition
```

---

```
!  SimpleFunction.f90
module globals
    implicit none
    save

    integer, parameter:: dble = kind(1d0)

end module globals

module functions
    use globals
```

```
    implicit none

    contains

    function square(x)
        implicit none
        real(dble) square
        real(dble) x
        square = x*x
    end function square

end module functions

program SimpleFunction
    use functions
    implicit none

    real(dble) x, y
    y = 3.0d0
    x = square(y)
    print *, "y = ", y
    print *, "x = ", x

end program SimpleFunction
```

---

```
!  SimpleSubroutine.f90
module globals
    implicit none
    save

    integer, parameter:: dble = kind(1d0)

end module globals

module subroutines
    use globals
    implicit none

    contains

    subroutine square(x,y)
        implicit none
        real(dble), intent(in):: x
        real(dble), intent(out):: y
        y = x*x
    end subroutine square
```

```
end module subroutines

program SimpleSubroutine
    use subroutines
    implicit none

    real(dble) x, y
    y = 3.0d0
    call square(y,x)
    print *, "y = ", y
    print *, "x = ", x

end program SimpleSubroutine

-----------------------------------------------------------------------

!  Scope.f90
module globals
    implicit none
    save

    integer, parameter:: dble = kind(1d0)
    real(dble):: globalx  = 3.0d0

end module globals

module subroutines
    use globals
    implicit none

    contains

    subroutine square(x,y)
        implicit none
        real(dble), intent(in):: x
        real(dble), intent(out):: y
        y = x*x + globalx
    end subroutine square

end module subroutines

program Scope
    use subroutines
    implicit none

    real(dble) x, y
    y = 3.0d0
```

```
    call square(y,x)
    print *, "y = ", y
    print *, "x = ", x
    print *, "globalx = ", globalx

end program Scope
```