

Legal/illegal declarations with *, [], and ()

• <code>int i;</code>	an int	• <code>int (*pff)();</code>	a pointer to a function returning a function returning an int (ILLEGAL)
• <code>int *p;</code>	an int pointer (ptr to an int)	• <code>int **app[];</code>	an array of pointers to int pointers
• <code>int a[];</code>	an array of ints	• <code>int (*apa[])[];</code>	an array of pointers to arrays of ints
• <code>int f();</code>	a function returning an int	• <code>int (*apf[])();</code>	an array of pointers to functions returning an int
• <code>int **pp;</code>	a pointer to an int pointer (ptr to a ptr to an int)	• <code>int *aap[][];</code>	an array of arrays of int pointers
• <code>int (*pa)[];</code>	a pointer to an array of ints	• <code>int aaa[][][];</code>	an array of arrays of arrays of ints
• <code>int (*pf)();</code>	a pointer to a function returning an int	• <code>int aaf[][]();</code>	an array of arrays of functions returning an int (ILLEGAL)
• <code>int *ap[];</code>	an array of int pointers (array of ptrs to ints)	• <code>int *afp[]();</code>	an array of functions returning int pointers (ILLEGAL)
• <code>int aa[][];</code>	an array of arrays of ints	• <code>int afa[]()[];</code>	an array of functions returning an array of ints (ILLEGAL)
• <code>int af[]();</code>	an array of functions returning an int (ILLEGAL)	• <code>int aff[]()();</code>	an array of functions returning functions returning an int (ILLEGAL)
• <code>int *fp();</code>	a function returning an int pointer	• <code>int **fpp();</code>	a function returning a pointer to an int pointer
• <code>int fa()[];</code>	a function returning an array of ints (ILLEGAL)	• <code>int (*fpa())[];</code>	a function returning a pointer to an array of ints
• <code>int ff()();</code>	a function returning a function returning an int (ILLEGAL)	• <code>int (*fpf)();</code>	a function returning a pointer to a function returning an int
• <code>int ***ppp;</code>	a pointer to a pointer to an int pointer	• <code>int *fap()[];</code>	a function returning an array of int pointers (ILLEGAL)
• <code>int (**ppa)[];</code>	a pointer to a pointer to an array of ints	• <code>int faa()[][];</code>	a function returning an array of arrays of ints (ILLEGAL)
• <code>int (**ppf)();</code>	a pointer to a pointer to a function returning an int	• <code>int faf()[]();</code>	a function returning an array of functions returning an int (ILLEGAL)
• <code>int *(*pap)[];</code>	a pointer to an array of int pointers	• <code>int *ffp();</code>	a function returning a function returning an int pointer (ILLEGAL)
• <code>int (*paa)[][];</code>	a pointer to an array of arrays of ints		
• <code>int (*paf)[]();</code>	a pointer to an array of functions returning an int (ILLEGAL)		
• <code>int *(*pfp)();</code>	a pointer to a function returning an int pointer		
• <code>int (*pfa)()[];</code>	a pointer to a function returning an array of ints (ILLEGAL)		

Illegal combinations include: `[]()` - cannot have an array of functions

`()()` - cannot have a function that returns a function

`()[]` - cannot have a function that returns an array