

C Language – Scope of variables, Pass by Val and Ref

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Public Variables

```
Int mVisibletoAll;
```

This is visible in all places

```
main()
```

```
{  
  int mfmain = 0;  
}
```

This is visible only in main

```
Int function1()
```

```
{  
  int mf1 = 0;  
}
```

This is visible only in Function1

```
Int function2()
```

```
{  
  int mf2 = 0;  
}
```

This is visible only in Function2

** refer externalvariables.c

Function Prototype

```
int isPrime(int mNumber) ;
```

Signature / Prototype

```
main()
{
    int x;

    x = isPrime( 30) ;
}
```

```
int isPrime( int mNumber)
{
    .... Implementation...
}
```

Pass by Value and Reference

Pass by Val



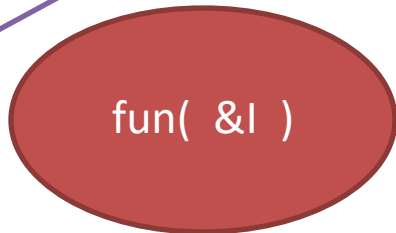
Only Value of i passed



Value								Address
1	0	1	1	1	0	0	1	0xxxxxxxxx
1	0	0	0	0	0	0	1	0xxxxxxxxx
1	1	1	1	0	1	0	0	0xxxxxxxxx

Creates a copy of the variable

Pass by Ref



Address is passed



Functions – pass by value and pass by reference

```
#include <stdio.h>
main()
{
    int i = 0;
    int j = 0;

    donotchangeValues(i);
    changeValues(&j);

    printf("value of i = %d , value of j = %d ", i, j);
}
```

```
donotchangeValues(int i)
{
    i += 10 ;
}
```

```
changeValues(int *j)
{
    *j += 10;
}
```

Pass by Val

Pass by Ref

Functions – Character input

```
#include <stdio.h>

void printStr(char *s1);

main()
{
    char str1[] = "This is a sample string\0" ;
    printStr( str1) ;
}

void printStr( char *s1 )
{
    puts(s1);
}
```