Make Example

A make Example

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Sample Makefile

```
OBJECTS= arrays.o sub.o subB.o
arrays: $(OBJECTS)
        gcc $(OBJECTS) -o $@
arrays.o: magic.h
sub.o:
subB.o:


clean:
        rm -f *.o
```

magic.h and sub.c

magic.h

```
extern int magic;
#define SIZE 10
```

sub.c

```c
#include <stdio.h>
void sub (int* aptr, int len)
{
   int i;
   printf("S :");
   for (i =0; i < len; i++)
     {
        aptr[i] = 2* (i + 1);
        printf ("  %d", aptr[i]);
     }
   printf("\n");
}
```

subB.c

```c
#include <stdio.h>

int magic = 22;

void subB (int x, int y, int z, int* aptr, int len)
{
  int i;
  int temp;

  printf ("B :");
  printf ("  x = %d , y = %d , z = %d \n", x,y,z);
  temp =z;
  z = y;
  y = x;
  x = temp;
  aptr[len - 1] = 77;
  printf ("B :");
  printf ("  x = %d , y = %d , z = %d \n", x,y,z);
```

subB.c (cont.)

```c
printf ("B :");
for (i =0; i < len; i++)
   {
     printf ("  %d", aptr[i]);
   }
 aptr[magic + x] = 33;
 printf("\n");
}
```

arrays.c

```c
#include <stdio.h>
#include "magic.h"
int main()
{
  void sub ();
  void subB ();
  int a[SIZE];
  int i;
  printf("M :");
  for (i = 0; i < SIZE; i++)
    {
      a[i] = i + 1;
      printf("  %d", a[i]);
    }
  printf("\n");
  sub(a, SIZE);
  printf("M2:");
  for (i = 0; i < SIZE/2; i++)
    {
      a[2*i] = 99 - 30*i;
      printf("  %d", a[2*i]);
      printf("  %d", a[2*i +1]);
    }
```

WPI

```
   printf("\n");
   subB(a[6],a[7],a[8], a, SIZE);
   printf("M3:");
   magic = magic/4;
   a[magic] = 45;
   for (i = 0; i < SIZE; i++)
     {
       printf("  %d", a[i]);
     }
   printf("\n");
   return 0;
}
```

make and arrays execution

```
$ make
cc    -c -o arrays.o arrays.c
cc    -c -o sub.o sub.c
cc    -c -o subB.o subB.c
gcc arrays.o sub.o subB.o  -o arrays

$ ./arrays
M :  1  2  3  4  5  6  7  8  9  10
S :  2  4  6  8  10  12  14  16  18  20
M2:  99  4  69  8  39  12  9  16  -21  20
B :  x = 9 , y = 16 , z = -21
B :  x = -21 , y = 9 , z = 16
B :  99  4  69  8  39  12  9  16  -21  77
M3:  99  33  69  8  39  45  9  16  -21  77
```