**Pointers II: Pass By Value/Pass By Reference**

1. Write a program that includes the following function:

```
void swap (int *p, int *q)
```

When passed the addresses of two variables, swap should exchange the values of the variables. Your program will read two integers from the user in the main function and then uses swap function to swaps the content of these variables.

A sample run would be as follows:

```
Enter a value for p: 45
Enter a value for q: 50
After swap p is 50 and q is 45
```

2. Write a program that includes the following function

```
void find__smallest(int a[], int n, int *smallest)
```

When passed an array of length n, the function will search for its smallest, storing them in the variables pointed by the smallest.

A sample run would be as follows:

```
How many elements you want to store (n)? 3
Enter a value to be stored: 10
Enter a value to be stored: 20
Enter a value to be stored: 3
Smallest value stored is 3
```

3. Show the output of the following program:

```
#include<stdio.h>
void f(int *p);
int main()
{ int a[5]={10,20,30,40,50};
  int i;
f(a);
for(i=0;i<5;i++)
   printf("a[%d]=%d ",i, a[i]);
printf("\n");
return 0;
}
void f(int *p){ int i, sum=0;
for(i=3;i<5;i++)
     sum+=*(p+i);
printf("SUM=%d\n",sum);}
```

4. Show the output of the following program:

```
#include<stdio.h>
```

```
int f1(char, char);
 int f2(char *, char *);
int main()
{ char a='X';
char b='Y';
int i,j;
printf("BEFORE F1 - a=%c b=%c\n",a,b);
i=f1(a,b);
printf("AFTER F1 - a=%c b=%c i=%d\n",a,b,i);
 j=f2(&a,&b);
 printf("AFTER F2 - a=%c b=%c j=%d\n",a,b,j);
 return 0;
}

int f1(char c1, char c2)
{ c1='P'; c2='Q';
return ((c1<c2)?c1:c2);}

int f2(char *c1, char *c2)
{ *c1='P';
*c2='Q';
 return ((*c1==*c2)?*c1:*c2); }
```