

LAB OBJECTIVE

At the end of this lab activity, the students should be able to:

- To understand the relationships among pointers, functions and arrays.

PRACTICE

1. Given the following code segment, identify the output once the execution is completed.

a)

```
int m=5, n=2, *ptr;
ptr = &n;
m = ++*ptr % 3;
n = m + n * *ptr;
```

b)

```
int a = 2, b = 4, c = 6;
int *p1, *p2, *p3;
p1 = &b;
p2 = &c;
p3 = p2;
printf("\n %d %d %d", *p1, *p2, *p3);
*p2 *= *p1;
if (*p2 < 24)
{
    *p1 += *p3;
    --(*p3);
}
printf("\n %d %d %d", *p1, *p2, *p3);
printf("\n %d %d %d\n", a, b, c);
```

c)

```
int my_array[] = {1, 3, 5, 7, 11, 13, 17, 19};
int *ptr1, *ptr2, i;
ptr1 = &my_array[2];
printf("\n%d", *ptr1 + 3);
printf("\n%d", *(ptr1 + 3));
ptr2 = &my_array[4];
printf("\n%d", *ptr1 + *ptr2);
printf("\n%d", *(ptr1) + ++(*ptr2));
printf("\n%d\n", *(++ptr1) + *ptr2);
```

d)

```
#include<stdio.h>
void que88(int *p, int *q)
{ int temp;
  printf("\nin function que88: *p : %d, *q : %d ", *p, *q);
  temp = *p;
  *p = *q;
  *q = temp;
}

void main()
{ int x=5, y=10;
  printf("\nMain: x : %d, y : %d ", x, y);
  que88(&x,&y);
  printf("\nMain: x : %d, y : %d ", x, y);
}
```

e)

```
int *ptr;
int x=7;

ptr = &x;
*ptr = 0;

printf(" x = %d\n", x);
printf(" *ptr = %d\n", *ptr);

*ptr += 15;
printf(" x = %d\n", x);
printf(" *ptr = %d\n", *ptr);

(*ptr)++;
printf(" x = %d\n", x);
printf(" *ptr = %d\n", *ptr);
```

f)

```
int numbers[]={10,8,34,100,3,12,14,7};
int *a, *b;

a = &numbers[3];
b = numbers;

printf("\n %d", *a + *b);
printf("\n %d", *a-- - ++*b);
printf("\n %d", *(a+2) + *b+15);
```

SUBMISSION

Given the following code segment, identify the output once the execution is completed.

```
int list[4]={1,2,3,4};
int x, *p=list;

list[2] = 5;
for(x=0;x<4;x++)
    printf("%d ", list[x]);
printf("\n");

*(p+2)=7;
for(x=0;x<4;x++)
    printf("%d ", list[x]);
printf("\n");

p[2]=6;
for(x=0;x<4;x++)
    printf("%d ", list[x]);
printf("\n");

*(list+2)=5;
for(x=0;x<4;x++)
    printf("%d ", list[x]);
printf("\n");
```