```
// CS5900/ET2100 Programming in C
// Summer 2015
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//Linear Search..........

#include <stdio.h>
#include <conio.h>

int main()
{
    int array[10], search, c, n;

    printf("Enter the number of elements in array\n");
    scanf("%d",&n);

    printf("Enter %d integer(s)\n", n);

    for (c = 0; c < n; c++)
       scanf("%d", &array[c]);

    printf("\nEnter the number to search\n");
    scanf("%d", &search);

    for (c = 0; c < n; c++)
    {
       if (array[c] == search)               /* if required element found */
       {
          printf("\n%d is present at location %d.\n", search, c+1);
          break;
       }
    }
    if (c == n)
       printf("\n%d is not present in array.\n", search);

    getch();
    return 0;
}


//Linear search for multiple occurances

#include <stdio.h>
#include <conio.h>

int main()
{
    int array[100], search, c, n, count = 0;

    printf("Enter the number of elements in array\n");
    scanf("%d", &n);

    printf("Enter %d numbers\n", n);

    for ( c = 0 ; c < n ; c++ )
       scanf("%d", &array[c]);
```

```c
    printf("\nEnter the number to search\n");
    scanf("%d", &search);

    for (c = 0; c < n; c++) {
        if (array[c] == search)
          {
            printf("\n%d is present at location %d.\n", search, c+1);
            count++;
        }
    }
    if (count == 0)
        printf("%\nd is not present in array.\n", search);
    else
        printf("\n%d is present %d times in array.\n", search, count);

    getch();
    return 0;
}


//Swapping two values............

#include <stdio.h>

int main()
{
    int x, y;
    int temp;

    printf("Enter value for x: ");
    scanf("%d", &x);

    printf("Enter value for y: ");
    scanf("%d", &y);

    printf("\nBEFORE swapping: x = %d and y = %d\n", x, y);

 // implement swapping.......

            temp = x;
            x = y;
            y = temp;

    printf("\nAFTER swapping: x = %d and y = %d\n", x, y);

    getch();
    return 0;
}


// Swapping two values...........
// modular - Call-by-Ref method

#include <stdio.h>

void swap_2(int *x, int *y);
```

```c
int main()
{
    int x, y;

    printf("Enter value for x: ");
    scanf("%d", &x);

    printf("Enter value for y: ");
    scanf("%d", &y);

    printf("\nBefore swapping: x = %d and y = %d\n", x, y);

                    swap_2(&x,&y);

    printf("\nAfter swapping: x = %d and y = %d\n", x, y);

     getch();
     return 0;
}

void swap_2(int *x, int *y)
{
    int temp;
 // implement swapping.......

                temp = *x;
                *x = *y;
                *y = temp;
}


// Call-by-Ref method.............
// use of pointer variable and address-operator

#include <stdio.h>
#include <math.h>

const double PI = 3.1416;

void compute(int r, double *a, double *b);


int main()
{
    int r;
    double area = 0.0, cir = 0.0;

    printf("Enter a value or Radius: ");
    scanf("%d", &r);

        compute(r, &area, &cir);

    printf("\nRadius of the circle = %d feet\n", r);
    printf("Area = %.2f sq.feet\n", area);
    printf("Circumference = %.2f feet\n", cir);
```

```
    return 0;
}

void compute(int r, double *a, double *b)
{
    *a = PI * pow(r,2);
    *b = 2 * PI * r;
}
```