Question # 1

```c
#include <stdio.h>

void Swapping(int *a, int *b){
    int temp;

    temp = *a;
    *a = *b;
    *b = temp;
}

int main(){
    int a = 2;
    int b = 3;
    printf("Before Swapping: ");
    printf("\na = %d \nb = %d", a, b);

    Swapping(&a, &b);
    printf("\nAfter Swapping: ");
    printf("\na = %d \nb = %d", a, b);
}
```

```
Before Swapping:
a = 2
b = 3
After Swapping:
a = 3
b = 2
```

Question # 2

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


void Reverse(char *arr){
    printf("\nReverse Order: ");
    for(int i= strlen(arr)-1; i >= 0; i-- ){
        printf("%c", *(arr + i));
    }
}

int main(){
    char arr[] = "Car";
    printf("Original Order: ");
    for(int i=0; i < strlen(arr); i++ ){
        printf("%c", *(arr + i));       }
    Reverse(arr);
}
```

```
Original Order: Car
Reverse Order: raC
```

Question # 3

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

int main(){
    int stop = 1;
    int element[100];
    int size = 0;
    int *stopptr = &stop;

    while(stop != 0){

        printf("\nEnter element for array: ");
        scanf("%d", element + size);
        size += 1;

        printf("Do you want to stop (0 to stop): ");
        scanf("%d", stopptr);
    }

    printf("\nElements of list: [ ");
    for(int i=0; i<size; i++){
        printf("%d ", *(element + i));
    }
    printf("]");

}
```

```
Enter element for array: 1
Do you want to stop (0 to stop): 1

Enter element for array: 2
Do you want to stop (0 to stop): 2

Enter element for array: 3
Do you want to stop (0 to stop): 1

Enter element for array: 5
Do you want to stop (0 to stop): 0

Elements of list: [ 1 2 3 5 ]
```

Question # 4

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

char search(char *element, char *list){
    int size = strlen(list);

    for(int i=0; i<size; i++){
        if (*(list + i) == *element){
            return 1;
        }

    }
    return 0;
}
```

```c
int main(){

    char element;
    char list[] = {'1', 'a', '4', 'o', '\0'};
    printf("Enter element to search in the list: ");
    scanf("%c", &element);

    int found = search(&element, list);

    if(found == 1){
        printf("Element found in the list");
    }
    else{
        printf("Element not found");
    }
    return 0;
}
```

```
Enter element to search in the list: 1
Element found in the list

Enter element to search in the list: f
Element not found
```

Question # 5

```c
#include <stdio.h>

void addMatrices(int *mat1, int *mat2, int rows,
     int cols, int *result){


    for(int i=0; i<rows; i++){
        for (int j = 0; j < cols; j++){
            *(result + i*cols + j) = *(mat1 + i*cols + j)
             + *(mat2 + i*cols + j);

        }
    }
}

int main(){
    int mat1[3][3] = {
        {1, 2, 3},
        {4, 5, 6},
        {7, 8, 9}
    };

    int mat2[3][3] = {
        {4, 5, 6},
        {7, 8, 9},
        {1, 2, 3}

    };

    int rows = sizeof(mat1)/sizeof(*mat1);
    int cols = sizeof((*mat1))/sizeof(**mat1);
    int result[3][3];

    addMatrices((int *)mat1, (int *)mat2, rows,
     cols, (int *)result);

    for(int i=0; i < 3; i++){
        for(int j=0; j<3; j++){
            printf("| %d ", *(*(result + i) + j));

        }
        printf("|\n------------");
        printf("\n");
    }
    return 0;
}
```

```
| 5 | 7 | 9 |
------------
| 11 | 13 | 15 |
------------
| 8 | 10 | 12 |
```