2.

```c
/*****************************************************************************/
#include<stdio.h>

int main()
{
    int a[20],i,x,n;
    printf("How many elements?");
    scanf("%d",&n);

    printf("Enter array elements:n");
    for(i=0;i<n;++i)
        scanf("%d",&a[i]);

    printf("nEnter element to search:");
    scanf("%d",&x);

    for(i=0;i<n;++i)
        if(a[i]==x)
            break;

    if(i<n)
        printf("Element found at index %d",i);
    else
        printf("Element not found");

    return 0;
}
```

```
start | pause | continue | step over | step into | step out | help
Reading symbols from a.out...
(gdb) run
Starting program: /home/a.out
How many elements?5
Enter array elements:n1
2
3
4
5
nEnter element to search:3
Element found at index 2[Inferior 1 (process 3505) exited normally]
(gdb)
```

3.

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

struct node{
    char data;
    struct node* left;
    struct node* right;
};

struct node* createNode(char data){
    struct node *n;
    n = (struct node *) malloc(sizeof(struct node));
    n->data = data;
    n->left = NULL;
    n->right = NULL;
    return n;
}

void preOrder(struct  node* root){
    if(root!=NULL){
        printf("%c ", root->data);
        preOrder(root->left);
        preOrder(root->right);
    }
}

int main(){


    struct node *p = createNode('A');
    struct node *p1 = createNode('B');
    struct node *p2 = createNode('C');
    struct node *p3 = createNode('D');
    struct node *p4 = createNode('E');
    struct node *p5 = createNode('F');
    struct node *p6 = createNode('G');
```


```c
    p->left = p1;
    p->right = p2;
    p1->left = p3;
    p1->right = p4;
    p2->left = p5;
    p2->right = p6;

    preOrder(p);
    return 0;
}
```

```
A B D E C F G

...Program finished with exit code 0
Press ENTER to exit console.
```

4.

```c
#include <stdio.h>

int main()
{
  int array[100], n, c, d, swap;

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

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

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

  for (c = 0 ; c < n - 1; c++)
  {
    for (d = 0 ; d < n - c - 1; d++)
    {
      if (array[d] > array[d+1]) /* For decreasing order use '<' instead of '>' */
      {
        swap       = array[d];
        array[d]   = array[d+1];
        array[d+1] = swap;
      }
    }
  }

  printf("Sorted list in ascending order:\n");

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

  return 0;
}
```

```
Enter number of elements
5
Enter 5 integers
4
2
7
5
1
Sorted list in ascending order:
1
2
4
5
7


...Program finished with exit code 0
Press ENTER to exit console.
```

1.

```c
#include <stdio.h>


int main(){
    char person[200][200];

    for(int i = 0;i<6;i++){
        for(int j = 0;j<10;j++){
            scanf("%c",&person[i][j]);
        }
    }
     for(int i = 0;i<6;i++){
        for(int j = 0;j<10;j++){
            printf("%c",person[i][j]);
        }
    }
}
```

Output: code not solved properly