Assignment -2

Question 1

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

void swap(int *a,int *b){
    int tmp;
    tmp=*a;
    *a=*b;
    *b=tmp;
}

int main()
{

    int a,b;
    a=20;
    b=10;

    swap(&a,&b);

    printf("a is %d and b is %d",a,b);
```

```
    return 0;
}
```

```
a is 10 and b is 20Program ended with exit code: 0
```

Question 2

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

void swap(int *a,int *b){
    int tmp;
    tmp=*a;
    *a=*b;
    *b=tmp;
}

int main()
{
    int a[5]={1,2,3,4,5};
    int b[5]={6,7,8,9,10};

    for(int i=0;i<5;i++){
        swap(&a[i],&b[i]);
    }

    for(int i=0;i<5;i++){
        printf("%d ",a[i]);
    }
```

```
    printf("\n");

    for(int i=0;i<5;i++){
        printf("%d ",b[i]);
    }



    return 0;
}
```

Question 3

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

void swap(int *a,int *b){
    int tmp;
    tmp=*a;
    *a=*b;
    *b=tmp;
}

int main()
{
    int a[5]={1,2,3,4,5};

    int i=0;
    int j=4;

    while(i<j){
        swap(&a[i],&a[j]);
        i++;
```

```
        j--;
    }

    for(int i=0;i<5;i++){
        printf("%d ",a[i]);
    }



    return 0;
}
```

```
5 4 3 2 1 Program ended with exit code: 0
```

Question 4

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

void swap(char *a,char *b){
    char tmp;
    tmp=*a;
    *a=*b;
    *b=tmp;
}

int main()
{
```

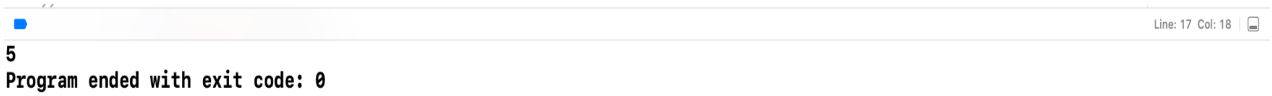
```
    char a[100];
    char b[100];

    fgets(a, 100, stdin);
    fgets(b, 100, stdin);


    for(int i=0;i<strlen(a);i++){
        swap(&a[i],&b[i]);
    }

    puts(a);
    puts(b);




    return 0;
}
```

```
hello
world
world

hello

Program ended with exit code: 0
```

Question 5

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


int main()
{
    int a[10]={1,1,2,2,3,4,5,6,7,1};
```

```
    int h[10]={0};
    int count=0;

    for(int i=0;i<10;i++){
        h[a[i]]++;
    }

    for(int i=0;i<10;i++){
        if(h[i]==1){
            count++;
        }
    }


    printf("%d\n",count);




    return 0;
}
```

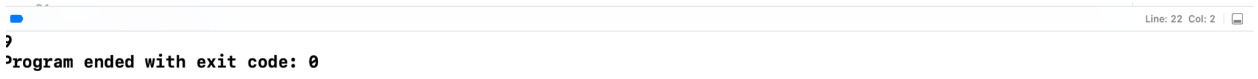



```
5
Program ended with exit code: 0
```

Question 6

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


int main()
```

```
{
    int a[10]={1,2,3,4,5,6,7,8,10};

    int h[10]={0};

    for(int i=0;i<10;i++){
        h[a[i]]++;
    }

    for(int i=0;i<10;i++){
        if(h[i]==0){
            printf("%d\n",i);
            break;
        }
    }

    return 0;
}
```

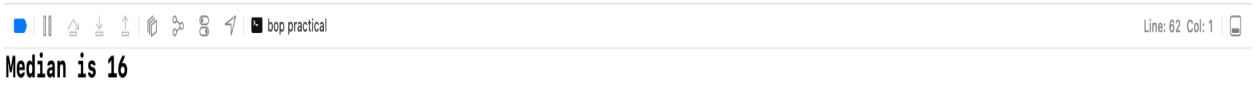


Question 7

```
#include <stdio.h>


int getMedian(int ar1[], int ar2[], int n)
{
    int i = 0;
    int j = 0;
    int count;
```

```
int m1 = -1, m2 = -1;


for (count = 0; count <= n; count++)
{

    if (i == n)
    {
        m1 = m2;
        m2 = ar2[0];
        break;
    }


    else if (j == n)
    {
        m1 = m2;
        m2 = ar1[0];
        break;
    }

    if (ar1[i] <= ar2[j])
    {
        m1 = m2;
        m2 = ar1[i];
        i++;
    }
    else
    {
        m1 = m2;
        m2 = ar2[j];
        j++;
    }
```

```
    }

    return (m1 + m2)/2;
}


int main()
{
    int ar1[] = {1, 12, 15, 26, 38};
    int ar2[] = {2, 13, 17, 30, 45};

    int n1 = sizeof(ar1)/sizeof(ar1[0]);
    int n2 = sizeof(ar2)/sizeof(ar2[0]);
    if (n1 == n2)
        printf("Median is %d", getMedian(ar1, ar2, n1));
    else
        printf("Doesn't work for arrays of unequal size");
    getchar();
    return 0;
}
```



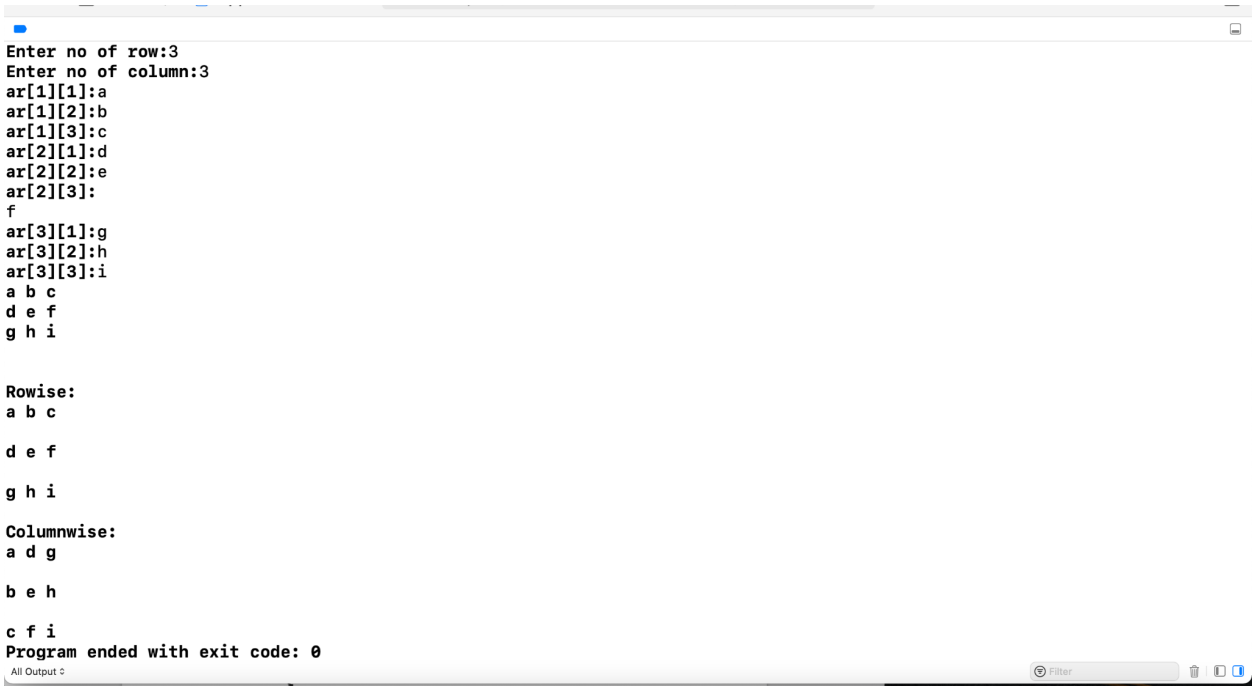
Question 8

```
#include <stdio.h>

void matrix_print(int row,int col,char ar[row ][col])
{
    for(int i=0;i<row;i++)
    {
```

```
        for(int j=0;j<col;j++)
        {
            printf("%c ",ar[i][j]);
        }
        printf("\n");
    }
}
void bubblesort(char ar[],int size)
{
    for(int i=0;i<size-1;i++)
    {
        int flag=0;
        for(int j=0;j<size-1-i;j++)
        {
            if(ar[j]>ar[j+1])
            {
                int temp=ar[j];
                ar[j]=ar[j+1];
                ar[j+1]=temp;
                flag=1;
            }
        }
        if(flag==0)
            break;
    }
}
void matrix_in(int row,int col,char ar[row][col])
{
    for(int i=0;i<row;i++)
    {
        for(int j=0;j<col;j++)
        {
            printf("ar[%d][%d]:",i+1,j+1);
```

```
            scanf(" %c",&ar[i][j]);
        }
    }
}
void arprint(int size,char ar[])
{
    for(int i=0;i<size;i++)
        printf("%c ",*(ar+i));
    printf("\n");
}

void givestr(int row,int col,char ar[row][col])
{
    char rar[col];
    char colar[row];
    printf("Rowise:");
    for(int i=0;i<row;i++)
    {
        for(int j=0;j<col;j++)
        {
            rar[j]=ar[i][j];
        }
        printf("\n");
        bubblesort(rar,col);
        arprint(col,rar);
    }
    printf("\nColumnwise:");
    for(int k=0;k<col;k++)
    {
        for(int i=0,j=0;j<row;i=i+col,j++)
        {
            colar[j]=*(*ar+i+k);
        }
```

```
        printf("\n");
        bubblesort(colar,row);
        arprint(row,colar);
    }
}


int main()
{
    int row;
    int col;
    printf("Enter no of row:");
    scanf("%d",&row);
    printf("Enter no of column:");
    scanf("%d",&col);
    char ar[row][col];
    matrix_in(row, col, ar);
    matrix_print(row, col, ar);
    printf("\n\n");
    givestr(row, col, ar);

    return 0;
}
```



Question 9

```
#include <stdio.h>

void swap(int *a,int *b){
    int tmp;
    tmp=*a;
    *a=*b;
    *b=tmp;
}

void reverse(int a[],int n){

    int i=0;
    int j=n-1;

    while(i<j){
        swap(&a[i],&a[j]);
        i++;
```

```
        j--;
    }

    for(int i=0;i<n;i++){
        printf("%d ",a[i]);
    }
}

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

    for(int i=0;i<3;i++){
        reverse(a[i],3);
        printf("\n");
    }

    return 0;
}
```

Line: 12 Col: 6

```
3 2 1
6 5 4
9 8 7
Program ended with exit code: 0
```