

QUESTION 5.1

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

```
int main(){
    int lenght = 0;
    printf("Please enter length of array : ");
    scanf("%d",&lenght);
    double array[lenght];
    for(int i = 0;i<lenght;i++){
        printf("%d. index : ",i);
        scanf("%lf",&array[i]);
    }

    double sum = 0;
    for(int i = 0;i<lenght;i++){
        sum += array[i];
    }

    printf("Avarage is %lf",sum/lenght);

    return 0;
}
```

```
PS C:\Users\kema1\Desktop\github_repos\c_learning_projects\5th_week>
5.1.c -o ".\5.1.exe" } ; if ($?) { .\5.1.exe }
Please enter length of array : 5
0. index : 453
1. index : 8852
2. index : 45
3. index : 15
4. index : 45
Avarage is 1882.000000
```

QUESTION 5.2

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

```
int main(){
    int lenght;

    printf("Please enter lenght of array :");
    scanf("%d",&lenght);
    if(lenght%2 == 0 || lenght <3){
        printf("Enter odd number and greater than 3\n");
        return 0;
    }

    double array[lenght];

    for(int i=0;i<lenght;i++){
        printf("%d. index :",i);
        scanf("%lf",&array[i]);
    }

    int mid = lenght/2;
    printf("Sum of middle tree elements is %lf",array[mid]+array[mid+1]+array[mid-1]);

}
```

```
5.2.c -o ".\5.2.exe" } ; if ($?) { .\5.2.exe }
Please enter lenght of array :5
0. index :1
1. index :23
2. index :4
3. index :3
4. index :21
Sum of middle tree elements is 30.000000
```

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

```
void print_asterix(int n)
{
    for (; n > 0; n--)
    {
        printf("*");
    }
}
```

```
int main()
{
    int length;

    printf("Please enter length of array :");
    scanf("%d", &length);
    int array[length];

    for (int i = 0; i < length; i++)
    {
        printf("%d. index :", i);
        scanf("%d", &array[i]);
    }

    printf("\n\n%-10s%-10s%-10s\n", "Element"

    for (int i = 0; i < length; i++)
    {
        printf("%7d%8d      ", i, array[i]);
        print_asterix(array[i]);
        printf("\n");
    }

    return 0;
}
```

```
5.3.c -o ".\5.3.exe" } ; if ($?) { .\5.3.exe }
Please enter length of array :5
0. index :45
1. index :45
2. index :12
3. index :45
4. index :65
```

Element	Value	Histogram
0	45	*****
1	45	*****
2	12	*****
3	45	*****
4	65	*****

QUESTION 5.4

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

```
int abs(int x){  
    if(x<0){  
        return -x;  
    }else{  
        return x;  
    }  
}
```

```
int main(){  
    int array[5][5];  
  
    for(int y = 2; y >=-2;y--){  
        for(int x = -2;x<=2;x++){  
            if(abs(x)==abs(y)){  
                array[x+2][y+2] = 1;  
            }else{  
                array[x+2][y+2] = 0;  
            }  
        }  
    }  
}
```

```
for(int i = 0;i<5;i++){  
    for(int j = 0;j<5;j++){  
        if(array[i][j]==1){  
            printf(" 1 ");  
        }else{  
            printf("   ");  
        }  
    }  
    printf("\n");  
}
```

```
return 0;  
}
```

```
PS C:\Users\kema1\Desktop\github  
projects\5th_week> cd "c:\Users\k  
_repos\c_learning_projects\5th_w  
cc 5.4.c -o ".\5.4.exe" } ; if (
```

```
1           1  
    1       1  
      1  
    1       1  
1           1
```

```
PS C:\Users\kema1\Desktop\github
```

QUESTION 5.5

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

```
int main(){
    int lenght;
    printf("Please enter the lenght of arrays :");
    scanf("%d",&lenght);

    int array1[lenght],array2[lenght],sum[lenght];

    for(int i = 0 ; i< lenght;i++){
        printf("Enter %d. index for first array :",i);
        scanf("%d",&array1[i]);
    }

    for(int i = 0 ; i< lenght;i++){
        printf("Enter %d. index for second array :",i);
        scanf("%d",&array2[i]);
    }

    for(int i = 0; i<lenght;i++){
        sum[i] = array1[i] + array2[i];
    }

    printf("Sum of vectors in array formation :\n");

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

```
5.5.c -o ".\5.5.exe" } ; if ($?) { .\5.5.exe }
```

Please enter the lenght of arrays :3

Enter 0. index for first array :45

Enter 1. index for first array :85

Enter 2. index for first array :4

Enter 0. index for second array :65

Enter 1. index for second array :4

Enter 2. index for second array :5

Sum of vectors in array formation :

110,89,9,

QUESTION 5.6

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

```
void min_max(int array[],int len,int result[2]){
    result[0]= result[1] = array[0];
    for(int i = 0;i<len;i++){
        if(array[i]>result[1]){
            result[1] = array[i];
        }else if(array[i]<result[0]){
            result[0] = array[i];
        }
    }
}

int main(){
    int lenght;
    int result[2];
    while(1){
        printf("Please enter lenght of array enter 0 for exit :");
        scanf("%d",&lenght);
        if(lenght == 0){break;}
        int array[lenght];
        for(int i = 0;i<lenght;i++){
            printf("%d. index : ",i);
            scanf("%d",&array[i]);
        }
        min_max(array,lenght,result);
        printf("min : %d\nmax : %d\n",result[0],result[1]);
    }
}
```

```
5.6.c -o ".\5.6.exe" } ; if ($?) { .\5.6.exe }
Please enter lenght of array enter 0 for exit :5
0. index : 6
1. index : 5
2. index : 8
3. index : 1
4. index : 2
min : 1
max : 8
Please enter lenght of array enter 0 for exit :0
```

QUESTION 5.7

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

```
void bubble_sort_to(int array[],int lenght,int result[]){
    int temp = 0;
    for(int i = 0;i<lenght;i++){
        result[i] = array[i];
    }
    for(int i = 0;i<lenght;i++){
        for(int j = 0;j<lenght-1;j++){
            if(result[j]>result[j+1]){
                temp = result[j+1];
                result[j+1] = result[j];
                result[j] = temp;
            }
        }
    }
}
```

```
int main(){
    int lenght;
    int result[2];
    while(1){
        printf("Please enter lenght of array enter 0 for exit :");
        scanf("%d",&lenght);
        if(lenght == 0){break;}
        int array[lenght];
        int result[lenght];
        for(int i = 0;i<lenght;i++){
            printf("%d. index : ",i);
            scanf("%d",&array[i]);
        }
        bubble_sort_to(array,lenght,result);
        printf("Sorted array:\n");
        for(int i =0;i<lenght;i++){
            printf("%d,",result[i]);
        }
        printf("\n");
    }
}
```

```
5.7.c -o ".\5.7.exe" } ; if ($?) { .\5.7.exe }
Please enter lenght of array enter 0 for exit :5
0. index : 9
1. index : 8
2. index : 5
3. index : 1
4. index : 3
Sorted array:
1,3,5,8,9,
Please enter lenght of array enter 0 for exit :0
```

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