Name: Antarin Ghosal

Ha5.1:

```c
/*Author : Antarin Ghosal
Program : WAP to swap first element with last, second element with second last and
 so on, stored in an array.*/


#include<stdio.h>

int main(){
    int s[]={1,2,3,4,5},temp,i,n=5;

    for(i=0;i<5/2;i++){
        temp=s[i];
        s[i]=s[n-i-1];
        s[n-i-1]=temp;
    }

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

    return 0;
}
```

```
5 4 3 2 1
```

Ha5.2

```c
/*Author : Antarin Ghosal
Program : WAP to find out the second largest element stored in an array of 20
 integers.*/


#include<stdio.h>

int main(){
    int s[]={1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,18,19,20};
    int i,max,max2,n=20;

    for(i=0;i<20;i++){
        if(s[i]>s[i+1]){
            max=i-1;
```

```
        }
        else if (s[i+1]>s[i]){
            max=i;
        }
    }

    s[max]=0;

    for(i=0;i<20;i++){
        if(s[i]>s[i+1]){
            max2=i-1;
        }
        else if (s[i+1]>s[i]){
            max2=i;
        }
    }

    printf("The second largest element : %d",s[max2-2]);

    return 0;
}
```

```
The second largest element : 19
```

Ha 5.3

```
/*Author : Antarin Ghosal
Program : WAP to find the median of a list of numbers.*/


#include<stdio.h>

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

    if ( n % 2 == 0)
        median = (a[n/2] + a[n/2+1])/2.0 ;
    else
    median = a[n/2 + 1];

    printf("%d ",median);

    return 0;
}
```

4

Ha5.4

```c
/*Author : Antarin Ghosal
Program : WAP to find the standard deviation of a list of numbers.*/


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

int main(){
int i;
    float data[10];
    printf("Enter 10 elements: ");
    for (i = 0; i < 10; ++i)
        scanf("%f", &data[i]);

    float sum = 0.0, mean, SD = 0.0;

    for (i = 0; i < 10; ++i) {
        sum += data[i];
    }
    mean = sum / 10;
    for (i = 0; i < 10; ++i) {
        SD += pow(data[i] - mean, 2);
    }
    printf("\nStandard Deviation = %.6f", sqrt(SD / 10));

    return 0;
}
```

```
Enter 10 elements: 1
2
3
4
5
6
7
8
9
10

Standard Deviation = 2.872281
```

La5.1

```c
/*Author : Antarin Ghosal
Program : WAP to input 10 integers into an array of size 10. Print all elements.*/


#include<stdio.h>

int main(){
    int i,arr[10];

    for(i=0;i<10;i++){
        printf("Enter the %d number : ",i+1);
        scanf("%d",&arr[i]);
    }

    printf("\n");


    for(i=0;i<10;i++){
        printf("The Entered number is %d \n",arr[i]);
    }

    return 0;
}
```

```
Enter the 1 number : 1
Enter the 2 number : 2
Enter the 3 number : 3
Enter the 4 number : 4
Enter the 5 number : 5
Enter the 6 number : 6
Enter the 7 number : 7
Enter the 8 number : 8
Enter the 9 number : 9
Enter the 10 number : 10

The Entered number is 1
The Entered number is 2
The Entered number is 3
The Entered number is 4
The Entered number is 5
The Entered number is 6
The Entered number is 7
The Entered number is 8
The Entered number is 9
The Entered number is 10
```

```
Enter the 1 number : 10
Enter the 2 number : 20
Enter the 3 number : 30
Enter the 4 number : 40
Enter the 5 number : 40
Enter the 6 number : 40
Enter the 7 number : 50
Enter the 8 number : 40
Enter the 9 number : 40
Enter the 10 number : 50

The Entered number is 10
The Entered number is 20
The Entered number is 30
The Entered number is 40
The Entered number is 40
The Entered number is 40
The Entered number is 50
The Entered number is 40
The Entered number is 40
The Entered number is 50
```

La 5.2

```c
/*Author : Antarin Ghosal
Program : WAP to store max. 100 numbers into an array. Print all the elements
that are three digit even integers..*/


#include<stdio.h>

int main(){
    int arr[100],n,i;
    printf("Enter the amount of numbers we want to input : ");
    scanf("%d",&n);

    for(i=0;i<n;i++){
        printf("Enter a number : ");
        scanf("%d",&arr[i]);
    }

    printf("\n");

    for(i=0;i<n;i++){
        printf("The Entered value was : %d \n",arr[i]);
    }

    printf("\n");

    printf("The EVEN integers are as follows : \n");
    for(i=0;i<=n;i++){
        if ((arr[i]<=999 && arr[i]>=100) && arr[i]%2==0){
            printf("%d\n",arr[i]);
        }
    }

    return 0;
}
```

```
Enter the amount of numbers we want to input : 5
Enter a number : 101
Enter a number : 102
Enter a number : 103
Enter a number : 104
Enter a number : 105

The Entered value was : 101
The Entered value was : 102
The Entered value was : 103
The Entered value was : 104
The Entered value was : 105

The EVEN integers are as follows :
102
104
```

```
Enter the amount of numbers we want to input : 3
Enter a number : 1002
Enter a number : 102
Enter a number : 106

The Entered value was : 1002
The Entered value was : 102
The Entered value was : 106

The EVEN integers are as follows :
102
106
```

La 5.3

```c
/*Author : Antarin Ghosal
Program : WAP to find out the largest even integer stored in the array of n
integers. n is the user input.*/


#include<stdio.h>

int main(){
    int n[100],i,num,j,largest;

    printf("Enter the amount of numbers we want to input : ");
    scanf("%d",&num);

    for(i=0;i<num;i++){
        printf("Enter a number : ");
        scanf("%d",&n[i]);
```

```
    }

    largest = n[0];
    for(i=0;i<num;i++){
        if (n[i]%2==0 && n[i]>largest){
                    largest=n[i];
            }
    }

    printf("The largest number is : %d",largest);

    return 0;
}
```

```
Enter the amount of numbers we want to input : 5
Enter a number : 102
Enter a number : 103
Enter a number : 104
Enter a number : 105
Enter a number : 106
The largest number is : 106
```

```
Enter the amount of numbers we want to input : 3
Enter a number : 1002
Enter a number : 102
Enter a number : 103
The largest number is : 1002
```

La 5.4

```
/*Author : Antarin Ghosal
Program : WAP to swap the pair of elements starting from beginning.*/


#include<stdio.h>

int main()
{
    int arr[100],n,i;
    int temp;

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

    //value of n must be even
    if(n%2 !=0)
    {
        printf("Total number of elements should be EVEN.");
```

```
        return 1;
    }
    //read array elements
    printf("Enter array elements:\n");
    for(i=0;i < n;i++)
    {
        printf("Enter element %d:",i+1);
        scanf("%d",&arr[i]);
    }
    //swap adjacent elements
    for(i=0;i < n;i+=2)
    {
        temp    = arr[i];
        arr[i]  = arr[i+1];
        arr[i+1]= temp;
    }

    printf("\nArray elements after swapping adjacent elements:\n");
    for(i=0;i < n;i++)
    {
        printf("%d\n",arr[i]);
    }
    return 0;
}
```

```
Enter total number of elements: 5
Total number of elements should be EVEN.
```

```
Enter total number of elements: 6
Enter array elements:
Enter element 1:1
Enter element 2:2
Enter element 3:3
Enter element 4:4
Enter element 5:5
Enter element 6:6

Array elements after swapping adjacent elements:
2
1
4
3
6
5
```

La 5.5

```c
/*Author : Antarin Ghosal
Program : WAP to arrange the numbers stored in the array so that it will display
 first all odd numbers,then even numbers.*/


#include<stdio.h>

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


    for(i=0;i<10;i++){
        if (s[i]%2==0)
            printf(" Even %d \n",s[i]);
    }

    for(i=0;i<10;i++){
        if (s[i]%2==1)
            printf(" Odd %d \n",s[i]);
    }


    return 0;
}
```

```
Even 2
Even 4
Even 6
Even 8
Even 10
Odd 1
Odd 3
Odd 5
Odd 7
Odd 9
```

La 5.6

```c
/*Author : Antarin Ghosal
Program : WAP to display the array elements in reverse order.*/


#include<stdio.h>

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

    for(int i=4;i>=0;i--){
```

```
        printf("%d ",s[i]);
    }
    return 0;
}
```

```
5 4 3 2 1
```