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Subject: Programing Fundamentals LAB

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Problem: 1

```c
#include<stdio.h>
int min(int a[],int n)
{
    int minimum=a[0];
     for(int i=1;i<n;i++)
     {
         if (minimum>a[i])
         minimum=a[i];
     }

     return minimum;
}
int max( int a[],int n)

{
    int maximum=a[0];
    for(int j=1;j<n;j++)
  {
      if (maximum<a[j])
    maximum=a[j];
    }
    return maximum ;
}
int sum(int a[],int n)
{
    int sum=a[0];
    for(int i=1;i<n;i++)
    {
        sum=sum+a[i];
    }
    return sum;
}
float average(int a[],int n)
{
    float avg=0;
    float sum=a[0];
    for (int i=1;i<n;i++)
    {
        sum=sum+a[i];
    }
    avg=sum/n;
    return avg;
}
void  reverse(int a[], int n )
{
    int temp;
    int i , j;
    printf("The reverse of array is \n");
```

```c
    for( i=9;i>=0;i--)
    {
        printf("%d \t",a[i]);
    }
}
void even_odd(int a[],int n)
{
    int even=0, odd=0;
    for(int i=0;i<n;i++)
    {
        if(a[i]%2==0)
        {
            even++;
        }
        else
        odd++ ;
    }
     printf("\n There are %d even elements \n",even);
    printf("There are %d odd elements \n",odd);
}
int odd(int a[],int n)
{
    int sum=0;
    for(int i=0;i<n;i++)
    {
        if(a[i]%2!=0)
        {
            sum=sum+a[i];
        }
    }
    return sum;
}
int main()
{
    int array[10],n;
    printf("Enter number of elements in array \n");
    scanf("%d",&n);
    printf("Enter elemnts of array \n ");
    for(int i=0;i<n;i++)
    {
        scanf("%d",&array[i]);
    }

    int a=min(array,n);
    printf("1. The minimum value in the array is %d \n ",a);
    int b=max(array,n);
    printf("2. The maximum value in the array is %d \n",b);
    int s=sum(array,n);
    printf("3. The sum of array is %d \n",s);
    float AVG=average(array,n);
```

```c
    printf("4. The average of the array is %.2f \n",AVG);
    // Last element of array
    printf("5. The last element of array is %d \n",array[9]);
    // 2nd element of array
    printf("6. The value at 2nd index is %d \n",array[2]);
    //  reverse of array
    reverse(array,n);
    // even & odd elments count
    even_odd(array,n);
    // sum off odd
    int x=odd(array,n);
    printf("The sum of odd array is %d",x);
    return 0 ;
}
```

```
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 7> ./a.exe
Enter number of elements in array
10
Enter elemnts of array
 2
4
6
8
1
3
5
7
10
13
1. The minimum value in the array is 1
 2. The maximum value in the array is 13
3. The sum of array is 59
4. The average of the array is 5.90
5. The last element of array is 13
6. The value at 2nd index is 6
The reverse of array is
13      10      7       5       3       1       8       6       4       2
 There are 5 even elements
There are 5 odd elements
The sum of odd array is 29
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 7> []
```

Problem 2:

```c
#include<stdio.h>
int main()
{
    int a[60];
    int i ,j ,k;
```

```c
    for( i=0;i<20;i++)
    {
        a[i]=i*i;
       printf("%d \t ",a[i]);
    }
    for (int j=20;j<40;j++)
    {
        a[j]=j*j*j;
       printf(" %d \t",a[j]);
    }
     for (k=40,i=0,j=20;k<60,i<20,j<40;k++,i++,j++)
    {
        a[k]=a[i]+a[j];
       printf(" %d \t",a[k]);
    }

    return 0;
}
```

Problem 3:

```c
#include<stdio.h>
int main()
{
    int a[]={2,4,6,12,4,12,44,5,4,2,14,45,12,14,12,14,21,42,11,41,14};
    int n;
    int count=0;
    printf("Enter tha number you want to search:");
    scanf("%d",&n);
    for(int i=0;i<21;i++)
    {
        if(a[i]==n)
        {
         count++;
        }
    }
```

```c
    printf("The element %d is foud %d times in the array",n,count);
    return 0;
}
```

PROBLEMS   OUTPUT   TERMINAL   DEBUG CONSOLE

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 7> gcc 3.c
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 7> ./a.exe
Enter tha number you want to search:12
The element 12 is foud 4 times in the array
PS C:\Users\p22-9269\Desktop\Khizar\Pf lab\Ex 7>
```