

Documentation of Q2 ( Explanations are written with the abbreviation "Exp:" )

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

Exp: C libraries are called.

```
float sum(float* ar, int n)           // array is taken as a
pointer
{
    if(n <= 0)
        return ar[0];
    else
        return ar[n] + sum(ar, n -1);    //
recursion is implemented on sum function
}
```

Exp: The function sum is used to find the Arithmetic Mean of the numbers in the array (since the array is predefined). If "n" is equal to zero (which means the size of the array is zero), the function will return element of the array located at the 0th index. else it undergo recursion to find the sum of all the elements in the array provided in the code

```
float product(float* ar, int n)
{
    if(n <= 0)
        return ar[0];
    else
        return ar[n] * product(ar, n-1);    // recursion is
implemented on product fucntion
}
```

Exp: The function product is used to find the Geometric Mean of the numbers in the array (since the array is predefined). If "n" is equal to zero (which means the size of the array is zero),

the function will return element of the array located at the 0th index.  
else it undergo recursion to find the product of all the elements in the array provided in the code.

```
int main()
{
    int n,i;
    float ar[]={1,2,3,4,5,6,7,8,9,10};           // array
is pre defined
    /*printf("Enter the size of array: ");
    scanf("%d",&n);
    printf("Enter the elements:\n");
    for(i=0;i<n;i++)
    {
        scanf("%f",&ar[i]);
    }*/
    n= sizeof(ar)/sizeof(ar[0]);
    //printf("%d",n);
    printf("Arithmetic mean of the numbers is %f\n", sum(ar,n-1)/n);
    printf("Geometric mean of the numbers is
%f\n",pow(product(ar,n-1),(1.0/n)));
}
```

Exp: The main function has the array declared of which AM and GM is found. "n" is the sizeof the array.