**1. Calculate the area of square or circle based on the shape ‘S’ for Square and ‘C’ for Circle.**

Sample Input 1:  
Shape = ‘S’  
Size = 4  
Sample Output 1:  
Area of Square = 16

Sample Input 2:  
Shape = ‘C’  
Size = 4  
Sample Output 2:  
Area of Circle = 50.24

**CODE:**

#include <stdio.h>

int main() {

char shape;

int size;

float area;

printf("Enter S for square and C for circle: ");

scanf("%c",&shape);

if(shape=='S')

{

printf("Enter size:");

scanf("%d",&size);

area=size\*size;

printf("Area of Square: %.f",area);

}

else if(shape=='C')

{

printf("Enter size:");

scanf("%d",&size);

area=3.14\*size\*size;

printf("Area of Circle: %.2f",area);

}

else

printf("Select correct shape");

return 0;

}

**2. Given a sorted array having duplicate elements. Print the elements with its frequency having more than one appearance.**

Sample Input:  
N = 12  
Array = {1,1,1,2,4,4,4,4,5,6,9,9}  
Sample Output:  
1- >3,4->4,9->2

**CODE:**

#include <stdio.h>

int main()

{

int arr[20] ;

int i,N;

printf("Enter number of elements: ");

scanf("%d",&N);

printf("Elements in Array:");

for(i=0;i<N;i++)

{

scanf("%d",&arr[i]);

}

int length = sizeof(arr)/sizeof(arr[0]);

int frequency[length];

int visited = -1;

for(int i = 0; i < length; i++){

int count = 1;

for(int j = i+1; j < length; j++){

if(arr[i] == arr[j]){

count++;

//To avoid counting same element again

frequency[j] = visited;

}

}

if(frequency[i] != visited)

frequency[i] = count;

}

printf(" Element Frequency\n");

for(i = 0; i < N; i++)

{

if(frequency[i] != visited)

{

printf("%d",arr[i]);

printf("->");

printf("%d\n",frequency[i]);

}

}

return 0;

}

**3. Given a sentence and screen length. Justify the sentence according to the screen length by replacing space with stars.**

Sample Input 1:  
Sentence = Welcome to Zoho Corporation  
Screen length = 34  
Sample Output 1:  
Welcome\*\*\*\*to\*\*\*Zoho\*\*\*Corporation

Sample Input 2:  
Sentence = Welcome to Zoho Corporation  
Screen length = 36  
Sample Output 2:  
Welcome\*\*\*\*to\*\*\*\*Zoho\*\*\*\*Corporation

**CODE:**

#include <stdio.h>

#include <string.h>

int main() {

char sentence[100];

printf("Enter the sentence: ");

fgets(sentence, sizeof(sentence), stdin);

sentence[strcspn(sentence, "\n")] = '\0';

int screenLength;

printf("Enter the screen length: ");

scanf("%d", &screenLength);

int len = strlen(sentence);

int spaces = 0;

for (int i = 0; i < len; i++) {

if (sentence[i] == ' ') {

spaces++;

}

}

int totalSpacesNeeded = screenLength - len;

int spacesBetweenWords = spaces > 0 ? totalSpacesNeeded / spaces : 0;

int extraSpaces = spaces > 0 ? totalSpacesNeeded % spaces : 0;

for (int i = 0; i < len; i++) {

if (sentence[i] == ' ') {

int j;

for (j = 0; j < spacesBetweenWords; j++) {

printf("\*");

}

if (extraSpaces > 0) {

printf("\*");

extraSpaces--;

}

} else {

printf("%c", sentence[i]);

}

}

return 0;

}