**C Programming and Data Structures**

**Computer Science and Technology-B**

**Week 5**

**5(a) Write a c program to check whether a given number is a perfect number or not. (Perfect number is a positive number which sum of all positive divisors excluding that number is equal to that number. For example 6 is a perfect number since divisor of 6 are 1, 2 and 3. Sum of its divisor is 1+2+3=6)**

#include<stdio.h>

void main()

{

int n,i,sum=0;

printf("Enter a number ");

scanf("%d",&n);

for(i=1;i<n;i++)

{

if(n%i==0)

{

sum=sum+i;

}

}

if(sum==n)

{

printf("Given number is a Perfect Number");

}

else

{

printf("Given number is Not a Perfect Number");

}

}

**Output:**

Enter a number 8128

Given number is a Perfect Number

**5b) Write a C function to find the kth occurrence of an integer n in a sequence of non-negative integers, and then call your function from main.**

**Your function should be according to the following declaration:**

**int find(int n, int k);**

**sample example: input 3 2**

**1 1 3 2 3 -1**

**Output: 4**

#include <stdio.h>

int find(int n,int k);

void main()

{

int n,k;

printf("Enter element to find occurrence:");

scanf("%d",&n);

printf("Enter occurrence time:");

scanf("%d",&k);

find(n,k);

}

int find(int n,int k)

{

int array[100],l,i,count=0;

printf("Enter total number of elements: ");

scanf("%d",&l);

printf("Enter array elements:\n");

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

{

printf("Enter element %d: ",i+1);

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

}

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

{

if(array[i]==n)

{

count++;

}

if(count==k)

{

printf("Occurrence of %d is at: %d\n",n,i);

break;

}

}

return 0;

}

**Output:**

Enter element to find occurrence:3

Enter occurrence time:2

Enter total number of elements:6

Enter element 1:1

Enter element 2:1

Enter element 3:3

Enter element 4:2

Enter element 5:3

Enter element 6:-1

Occurrence of 3 is at:4