[1] Write a C program to print Largest and Smallest Word from a given sentence. If there are two or more words of same length then the first one is considered. Here single letter such as "I" , "a" is considered as a word.

Input: AICTE Approved FDP Course Output:

Largest Word is: Approved

Smallest word is: FDP

Code:

```
#include<stdio.h> #include<string.h>
int main()
{
    char str[100]={0},substr[100][100]={0};
//str[100] is for storing the sentence and substr[50][50] is for storing each word.

scanf("%s", str); //Accepts the sentence

charsmal[100], larg[100]; inti=0,j=0,k=0,length=0;
for(k=0; str[k]=='\0'; k++)
{
if(str[k] != ' ' &&str[k] != '\0')
    {
if (str[k] != '.')
    {
substr[i][j] = str[k];  j++;
    }
    }
else
    {
substr[i][j] = '\0';  i++;
    j = 0;
    }
```

```c
}
length = i+1;

strcpy(smal, substr[0]);
strcpy(larg, substr[0]);

for(k = 0; k <= length; k++)
   {
if(strlen(smal) >strlen(substr[k]))
      {
strcpy(smal, substr[k]);
      }

if(strlen(larg) <strlen(substr[k]))
      {
strcpy(larg, substr[k]);
      }
   }
printf("Largest Word is: %s\nSmallest word is: %s\n",larg,smal); return
0;
}
```

[2] Write a C program to check whether a given number (N) is a perfect number or not?

[Perfect Number - A perfect number is a positive integer number which is equals to the sum of its proper positive divisors. For example 6 is a perfect number because its proper divisors are 1, 2, 3 and it's sum is equals to 6.]

1) Input:
8000 Output:
8000 is not a perfect number
2) Input:
8128 Output:
8128 is a perfect number

Code:

```
#include <stdio.h>
int main()
{ int
N;
scanf("%d",&N); /* An integer number taken as input */

        int sum=0,i,rem;
        for(i=1;i<(N-1);i++)
        {
                rem=N%i;
                if (rem==0)
                        {sum=sum+i;}
        }
        if (sum!=N)
                {printf("\n %d is a perfect number.",N);}
        else
 {printf("\n %d is not a perfect number.",N);}  return 0;
}
```