WINTER SEMESTER 2016

CSE2003: DATA STRUCTURES AND ALGORITHMS (EMBEDDED LAB) SLOT: L51+L52

FACULTY: THENDRAL.P

ASSIGNMENT-1

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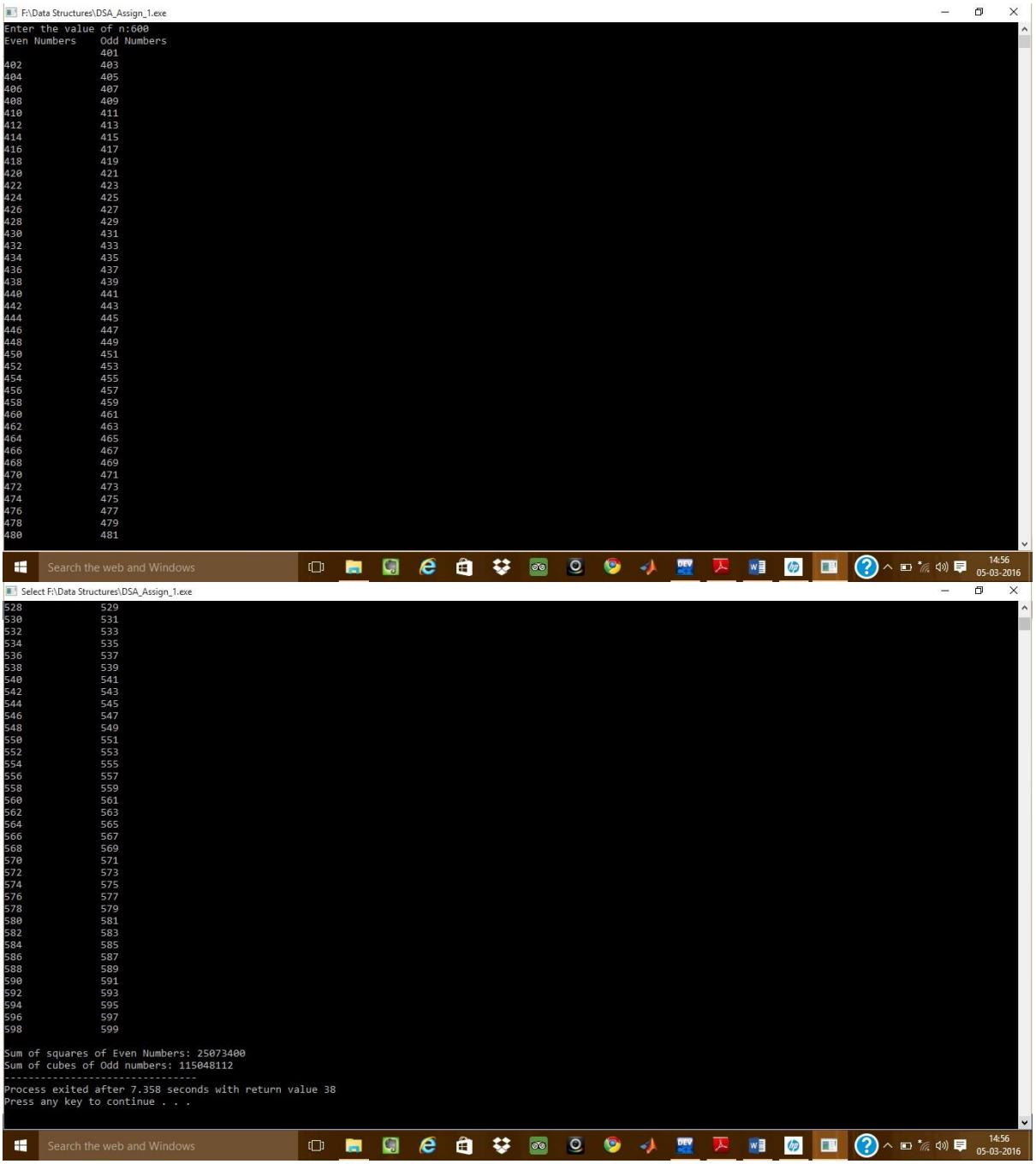
3.Find all the odd numbers between m & n (take m and n from user) and find the sum of their cubes. Also find all the even numbers between m & n and find the sum of their squares. (Check whether m and n are 3 digit numbers and the difference between them should be >100).

Code:

```
#include<stdio.h>
#include<string.h>
main()
{
        char l1[3];
        printf("Enter the value of m:");
        gets(l1);
        printf("Enter the value of n:");
        char l2[3];
        gets(l2);
        int sum1=0, sum2=0;
        printf("Even Numbers\tOdd Numbers\n");
        int m=atoi(l1);
        int n=atoi(l2);
        if(n-m>100){
        int i=m+1;
        while(i<n){
                if(i%2==0){
                printf("%d",i);
                sum1=sum1+i*i;
        }
                else{
                printf("\t\t%d\n",i);
                sum2=sum2+i*i*i;
        }
                i=i+1;
        }
        printf("\nSum of squares of Even Numbers: %d\n",sum1);
        printf("Sum of cubes of Odd numbers: %d",sum2);
}
else
```

```
printf("Invalid input");
}
```

Output:



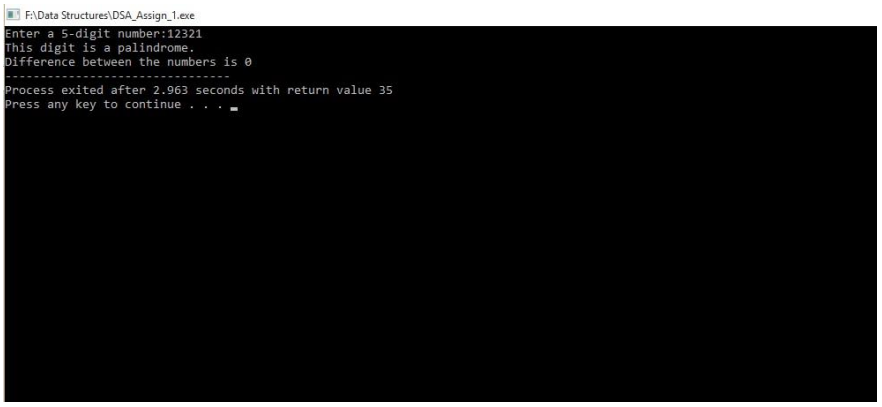
4.Check whether a given 5 digit number is a palindrome by reversing it using while loop. Also display the difference between them. (Check whether the given number is of 5 digits before proceeding)

Code:

```
#include<stdio.h>

#include<string.h>
main()

{
```

```
char l1[5];
char l2[5];
int i=4;

printf("Enter a 5-digit number:");
gets(l1);

if(strlen(l1)!=5)
printf("Invalid input");
else{

        while(i>=0){

                l2[i]=l1[strlen(l1)-1-i];
                i=i-1;

        }

        if(strcmp(l1,l2)==0)

        printf("This digit is a palindrome.\n");
        else
}       printf("This digit is not a palindrome.\n");

}       printf("Difference between the numbers is %d",abs(atoi(l1)-atoi(l2)));
```

Output:


F:\Data Structures\DSA_Assign_1.exe
Enter a 5-digit number:12321
This digit is a palindrome.
Difference between the numbers is 0

Process exited after 2.963 seconds with return value 35
Press any key to continue . . .