



**INDIAN INSTITUTE OF INFORMATION TECHNOLOGY
SONEPAT**

PP ASSIGNMENT

(CSC-552)

Assignment#2

Submitted To:

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Branch: CSE

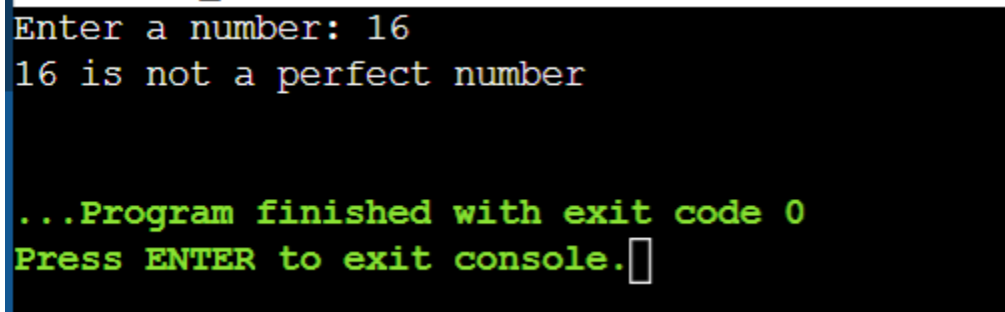
Semester: V

Session:2021-25

1. Write a program to check whether number is Perfect or not.

Code:

```
n = int (input ("Enter a number: "))
sum = 0
for x in range (1, n):
    if (n % x == 0) :
        sum = sum + x
if (n == sum) :
    print (n, "is a perfect number")
else :
    print (n, "is not a perfect number")
```



```
Enter a number: 16
16 is not a perfect number

...Program finished with exit code 0
Press ENTER to exit console.□
```

2. Write a Program to print following Pattern:

```
(i) 8 8 8 8 8 8 8
    7 7 7 7 7 7
    6 6 6 6 6
    5 5 5 5
    4 4 4
    3 3
    2
```

Code:

```
n=int(input("Enter a number: "))
for x in range(n,1,-1):
    print((" ")*(n-x),end="")
```

```
print((str(x)+" ")*(x-1))
```

```
Enter a number: 8
```

```
8 8 8 8 8 8 8
```

```
7 7 7 7 7 7
```

```
6 6 6 6 6
```

```
5 5 5 5
```

```
4 4 4
```

```
3 3
```

```
2
```

```
...Program finished with exit code 0
```

```
Press ENTER to exit console. 
```

```
(ii) 1 1 1 1 1 1 1 1 1
      1                      1
      1                      1
      1                      1
      1 1 1 1 1 1 1 1 1
```

Code:

```
n=int(input("Enter a number: "))
```

```
print('1'*n)
```

```
for i in range(1,n//3+1):
```

```
    print('1'+(' '*(n-2))+1')
```

```
print('1'*n)
```

```

Enter a number: 9
111111111
1      1
1      1
1      1
111111111

...Program finished with exit code 0
Press ENTER to exit console.

```

3. Write a program to find the sum of following series:

$1 - 2! + 3! - 4! + 5! - \dots n!$

Code:

```

n=int(input("Enter a number: "))
sum=0
x=1
for i in range(1,n+1):
    x*=i
    if i%2 == 1:
        sum=sum+x
    else:
        sum=sum-x
print("Output of the series is:",sum)

```

```

Enter a number: 3
Output of the series is: 5

...Program finished with exit code 0
Press ENTER to exit console.

```

4. Write a program to find the smallest and greatest among n numbers without using array.

Code:

```
n = int(input("Enter the value of n: "))
if n <= 0:
    print("Invalid input. Please enter a positive value of n.")
else:
    first_num = int(input("Enter number 1: "))
    smallest = first_num
    greatest = first_num

    for i in range(2, n + 1):
        num = int(input(f"Enter number {i}: "))
        if num < smallest:
            smallest = num
        if num > greatest:
            greatest = num

    print(f"The smallest number is: {smallest}")
    print(f"The greatest number is: {greatest}")
```

```
Enter the value of n: 5
Enter number 1: 39
Enter number 2: 26
Enter number 3: 16
Enter number 4: 50
Enter number 5: 16
The smallest number is: 16
The greatest number is: 50
```

```
...Program finished with exit code 0
Press ENTER to exit console.□
```