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Indian Institute of Information Technology Guwahati
COMPUTER PROGRAMMING LAB (CS110)
ASSIGNMENTS-05

1. Write a programs in C to compute the sum of the first n terms of the following series:

$$S_{e^x} = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots$$

2. Write separate programs in C to print the following patterns. Each of them is associated with a control variable n . The examples are associated with $n = 4$. A printf should print only 1 character.

i. \$\$\$\$
 \$\$\$\$
 \$\$\$\$
 \$\$\$\$

ii. ?
 ??
 ???
 ????
 %

iii. 1234
 123
 12
 1

iv. 4321
 321
 21
 1

v. For this one, $n = 7$.

```
1
1 2 3
1 2 3 4 5
1 2 3 4 5 6 7
1 2 3 4 5
1 2 3
1
```

vi. For this one, you need to print $2*n-1$ rows

```
1
010
10101
0101010
10101
010
1
```

vii.

```
  *
 ***
*****
*****
```

viii.

```
  *
 * *
* * *
* * * *
```

3. Write a C program to find the number of days in a month using switch when month (in number) is input.

4. Write a C program to create menu driven calculator that performs basic arithmetic operations (add, subtract, multiply and divide) using switch case and functions. The calculator should input two numbers and an operator from user. It should perform operation according to the operator entered and must take input in given format.

< number1 > < operator > < number2 >