LAB-ASSIGNMENT 2 (Upto Control Structure)

SUBJECT: Computer Lab. SUBJECT CODE: CS111. SEMESTER: I

1. Write a C program to swap two numbers using third variable and without using third variable.
2. Write a C program to verify a number is odd or even.
3. Write a C program to find maximum and minimum number from three numbers.
4. Write a C program to check a year is leap year or not.
5. Write a C program to calculate grade of a student. (take the marks of 3 subject as a input and calculate grade using switch-case)
6. Write a C program to calculate the summation of n numbers using for loop.
7. Write a C program to find maximum and minimum number from N numbers.(without using array)
8. Write a C program to calculate the factorial of a number.
9. Write a C program to check a number prime or not.
10. Write a C program to check a number Armstrong or not (example, 153 = $1^3+5^3+7^3$).
11. Write a C program to find the prime number in a given range.
12. Write a C program to print the following the following diagram.

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

13. Write a C program to print the following the following diagram.

```
        1
      2 2 2
    3 3 3 3 3
  4 4 4 4 4 4 4
```

14. Write a C program to calculate the sum and average of a number(example, N = 5483, sum = 20, avg = 5)
15. Write a C program to reverse a given number (example, n = 436, print 634).

else if (y % 400 == 0)

odd

2.

```
#include<stdio.h>

int main()
{
   int n,x;

   printf("Enter an integer\n");
   scanf("%d",&n);

   /*if ( n & 1 == 1 )
      printf("Odd\n");
   else
      printf("Even\n"); */
    x=n ^ 1;
    if ( x == n+1 )
      printf("Even\n");
   else
      printf("odd\n");

   return 0;
}
```

MSB 11 LSB

1 0 1 1

if (n & 1 == 1)

1 0 1 1

0 0 0 1

0 0 0 1

1 0 1 1 0 1

0 0 0 0 0 1

0 0 0 0 0 1

0·0 = 0

0·1 = 0

1·0 = 0

1·1 = 1

percentage >=85, grade A

percentage <85 and >=70 / grade B

else grade C

printf ("enter marks of 4 subjects");

scanf ("%d %d %d %d", &m1, &m2, &m3);

9.

```
#include<stdio.h>
#include<math.h>
int main()
{
int n,i,j;
printf("give the number");
scanf("%d", &n);
j=sqrt(n);
for(i=2;i<=j;i++)
{
if(n%i==0)
break;
}
if(i>j)
printf("%d is prime",n);
else
printf("%d is not prime",n);
return 0;

}
```

for (i=2; i<=√n ; i++)

Enter no of elements

scanf ("%d", &n);

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

{

flag =

}

smallest =

```
#include<stdio.h>
int main()
{
    int n,i,j;
 printf("enter the number of lines");
 scanf("%d",&n);
 for(i=n;i>0;i--)
 {

     for(j=n;j>i;j--)
     printf("%d",j-1);
     printf("\n");
 }

return 0;


      }
```

```
#include<stdio.h>
#include<math.h>
int main()
{
int n,d,m,s;
printf("give the number");
```

```
scanf("%d", &n);
for(d=0,m=n;m>0;m/=10,d++);
for(s=0,m=n;m>0;m/=10)
    s=s+pow(m%10,d);
if(s==n)
printf("%d is amstrong",n);
else
printf("%d is not amstrong",n);
return 0;

}
```

n, d = 153

for(d=0, m=n; m>0; m/=10, d++);

(m=153; 153>0, m=15, d=1);

(m=15, 15>0, m=1, d=2)

(m=1; 1>0; m=0, d=3)

(m=0, ~~0>0~~) d=3

$S = pow(3,3)\ 3^3$

$S = 3^3 + pow(5,3)$

$= 3^3 + 5^3$

$S = 3^3 + 5^3 + pow(1,3)$

$S = 3^3 + 5^3 + 1^3$

if (s == n)

```
#include<stdio.h>
int main()
{
    int n,i,j;
 printf("enter the number of lines");
 scanf("%d",&n);
 for(i=n;i>0;i--)
 {

     for(j=n;j>i;j--)
     printf("%d",j-1);
     printf("\n");
 }

return 0;


}
```