C-Programming Lab Sheet
I Year / I Part
Faculty: Computer/Electrical/Civil

Labsheet#3

Objectives:

To familiarized with different types of looping statement such as Loop, for, while, do…while, nesting loop.

1. Display 1 to 5
2. Average of given n numbers
3. Sum= 1+2+3+……+n,25
   Sum= 1+3+5+……+n,27
   Factorial of n numbers
4. 1 1 2 3 4 5 1
   1 2 1 2 3 4 2 1 2
   1 2 3 1 2 3 3 2 1 2 3
   1 2 3 4 1 2
   1 2 3 4 5 1
5. Sum of Sine and Cosine series.

Objective#1

1.1 Display the number from 1 to 5.

```
#inc1ude<stdio.h>
#include<conio.h>
void main(){
   int a=1;
   printf("a=%d\n",a);
   a=a+1;
   printf("a=%d\n",a);
   a=a+1;
   printf("a=%d\n",a);
   a=a+1;
   printf("a=%d\n",a);
   a=a+1;
   printf("a=%d\n",a);
   a=a+1;
   getch();
}
```

1.2

```
#inc1ude<stdio.h>
#include<conio.h>
void main(){
int i;
for(i=1;i<=5;i++)
      printf("%d\n",i);
getch();
}
```

Assignment 1: Compare the outputs in 1.1 and 1.2 and compare the two programs.

Objective#2:

2.1 Find the average of first 10 odd numbers.

```
#inc1ude<stdio.h>
#include<conio.h>
void main(){
float avg;
int i, sum, n
for(i=1;i<20;i=i+2){
 Sum=sum+i;
 n++;
}
avg=sum/n;
printf("avg=%f",avg);
getch();
}
```

Assignment 2

2.1 What happens if sum is not initialized to 0 or n to 0 in program 2.1

2.2 Modify the above program to find average of 10 input numbers.

2.3 Find the sum of the series

Sum=1+3+5+----------+n, where n is inputted by user.

2.4 Find the factorial of n number.

```
#inc1ude<stdio.h>

#include<conio.h>

#define PI 3.1415
void main(){
  int i;
  for(i=4;i<5;i++){
  printf("%d\n",i);
  getch();
}
```

Note the error message and modify the above program to remove error.

Objective#3:

3.1

```
#inc1ude<stdio.h>
#include<conio.h>
void main(){
  int i; i=6;
  while(i<=5){
    printf("%d\t",i);
    i++;
  }
  getch();
}
```

3.2

```
#inc1ude<stdio.h>
#include<conio.h>
void main(){
  int i; i=6;
do{
  printf("%d\t",i);
  i++;
}while(i<=5);
getch();
}
```

What is difference between program 3.1 and 3.2.

Assignment 3

3.1 modify the 2.1 using while loop.

3.2 modify 2.1 using do-while loop.

Objective#4:

4.1

```
#inc1ude<stdio.h>
#include<conio.h>
void main(){
  int i,j;
for(i=1;i<=5;i++){
      for(j=1;j<=i;j++)
            printf("%d\t",i);
      printf("\n");
}
   getch();
}
```

Assignment 4:

Modify the above program to get the output as below:

```
1                    1 2 3 4 5              1

1 2                  1 2 3 4              2 1 2

1 2 3                1 2 3              3 2 1 2 3

1 2 3 4              1 2

1 2 3 4 5            1
```

Objective#5:

5.1 WAP to evaluate sin=x-x^3 /3! + x^5 /5! -x^7 /7! ----------+x^n /n! where x is in radian.

```
#inc1ude<stdio.h>
#include<math.h>
void main(){
  int i,n,j;
  float y, t=0.0, sum=0.0, x, fact=1;
  printf("enter the x");
  scnf("%f",&x);
  printf("enter the number of trm");
  scanf("%d", &n);
  y=3.14/180*x;
  for(i=1;i;i<=n;i++){
  for()j=1;j<=I;j++)
  fact*=j;
  if(i%2!=0){
            sum=sum+pow(y,i)?fact;
  }
  printf("the sum of the series is %f", sum);
}
```

Assignment 5:

5.1 WAP to evaluate cosx=x-x^2 /2! + x^4 /4! -----+x^n /n!