

Lab7

ข้อที่1

```
//Chonthicha Phuangfueang 63090500006

#include <conio.h>
#include <stdio.h>
#include <math.h>

int fac(int x);

int main()
{
    float x,c_cos,f_cos,T=-1,Sm;
    int N=0,X;

    printf("input x : ");
    scanf("%f",&x);

    printf("%-10s%-10s%-10s\n","term","value","sum");
    printf("=====\n");

    for(X=1;;X=X+2)
    {
        T=-1*T;

        Sm=T*pow(X,x)/fac(X);

        if(fabs(Sm)<0.000001)break;

        N++;

        c_cos+=Sm;

        printf("%-8d%10.6f%10.6f\n",N,Sm,c_cos);

    }

    f_cos=cos(x);
```

```

printf("=====\n");
printf("cos(%.2f) from compute  = %f\n",x,c_cos);
printf("cos(%.2f) from function = %f\n",x,f_cos);
printf("number of term = %d",N);
getch();
return 0;
}

int fac(int x)
{
    int F=1,i;
    for(i=1;i<=x;i++)
        F=F*i;
    return F;
}

```

```
D:\Lab7.exe
input x : 0.5
term      value      sum
=====
1         1.000000    1.000000
2        -0.288675    0.711325
3         0.018634    0.729959
4        -0.000525    0.729434
5         0.000008    0.729442
=====
cos(0.50) from compute = 0.729442
cos(0.50) from function = 0.877583
number of term = 5_
```

```
//Chonthicha Phuangfueang 63090500006
#include <conio.h>
#include <stdio.h>
#include <math.h>
int fac(int x);
int main()
{
    float x,c_cos,f_cos,T=-1,Sm;
    int N=0,X;
    printf("input x : ");
    scanf("%f",&x);
    printf("%-10s%-10s%-10s\n","term","value","sum");
    printf("=====\n");
    for(X=1;;X=X+2)
    {
        T=-1*T;
        Sm=T*pow(X,x)/fac(X);
        if(fabs(Sm)<0.000001)break;
        N++;
        c_cos+=Sm;
        printf("%-8d%10.6f%10.6f\n",N,Sm,c_cos);
    }
    f_cos=cos(x);
    printf("=====\n");
    printf("cos(%.2f) from compute = %f\n",x,c_cos);
    printf("cos(%.2f) from function = %f\n",x,f_cos);
    printf("number of term = %d\n",N);
    printf("number of term = %d\n",N);
    getch();
    return 0;
}

int fac(int x)
{
    int F=1,i;
    for(i=1;i<=x;i++)
        F=F*i;
    return F;
}
```

## EXTRA

```
//Chonthicha Phuangfueang 63090500006

#include<conio.h>

#include<stdio.h>

#include<math.h>

int main()

{

    int i,n;

    float A,B,sum,area,x,H;

        printf("a,b : ");

        scanf("%f,%f",&A,&B);

        printf("n : ");

        scanf("%d",&n);

        H=(B-A)/n;

        sum=(sqrt(A*A+2)+sqrt(B*B+2))/2;

        for(i=1;i<n;i++)

        {

            x=A+i*H;

            sum=sum+sqrt(x*x+2);

        }

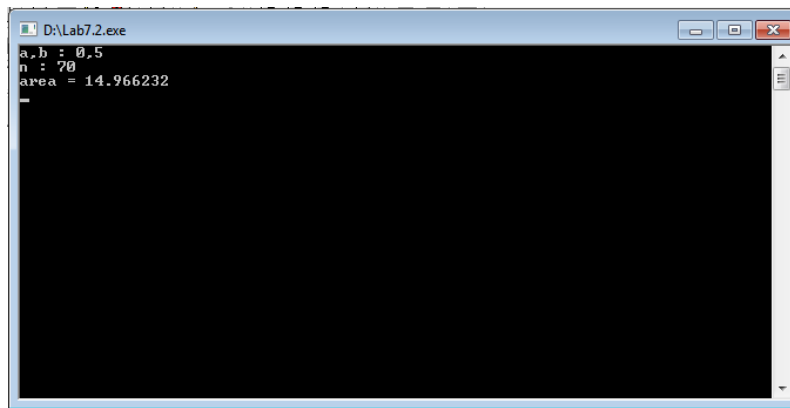
        area=H*sum;

        printf("area = %f\n",area);

        getch();

        return 0;

}
```



```
D:\Lab7.2.exe
a,b : 0,5
n : 70
area = 14.966232
```

```
//Chonthicha Phuangfueang 63090500006
#include<conio.h>
#include<stdio.h>
#include<math.h>
int main()
{
    int i,n;
    float A,B,sum,area,x,H;
    printf("a,b : ");
    scanf("%f,%f",&A,&B);
    printf("n : ");
    scanf("%d",&n);
    H=(B-A)/n;
    sum=(sqrt(A*A+2)+sqrt(B*B+2))/2;
    for(i=1;i<n;i++)
    {
        x=A+i*H;
        sum=sum+sqrt(x*x+2);
    }
    area=H*sum;
    printf("area = %f\n",area);
    getch();
    return 0;
}
```