MD.Akaid Islam
ID NO: 201-15-14148
Section :O-8

√ Mini calculator project in C program

```
#include"graphics.h"
#include"dos.h"
#include"stdio.h"
#include"math.h"
union REGS i,o;
char text[35][25]={
"7","8","9","*","4","5","6","/","1","2","3","+","0","00",".","-","M","M+",
"M-","+/-","MR","MC","x^2","sr","OFF","AC","CE","="};

int s=0,k=0,pass,op,prop,newnum=1,bt,memo=1,d=0,sq;
long double num=0,accum,m;
void normalbutton(int,int,int,int,char *);
void main()
{
int gd=DETECT,gm,x1,x2,y1,y2,i,j,maxx,maxy,x,y,button;
initgraph(&gd,&gm,"");
if(initmouse()==0)
 {
  closegraph();
  restorecrtmode();
  printf(" Mouse driver not loded");
  exit(1);
}
setcolor(2);
gotoxy(20,10);
printf("WELCOME TO ISTE
");
gotoxy(20,14);
printf("press any key to continue.....
");
getch();
cleardevice();
showmouseptr();
movemouseptr(&x,&y);
setcolor(15);
rectangle(198,140,417,163);
rectangle(199,141,418,164);
```

```
rectangle(197,139,416,162);
rectangle(185,130,430,450);
rectangle(184,129,431,451);
rectangle(182,127,433,454);
rectangle(181,126,434,453);
setfillstyle(SOLID_FILL,3);
//bar(200,142,415,161);
outtextxy(50,25,"A Calculator project in C presented by B.NARAYANA
MOORTHY
AND  R.KARTHIK KEYAN");
outtextxy(200,100,"Press OFF button to exit....");
y1=140;
y2=160;
for(j=0;j<7;j++)
 {
  x1=200;
  x2=235;
  y1+=40;
  y2+=40;
for(i=0;i<4;i++)
{
   normalbutton(x1,x2,y1,y2,text[s]);
   s++;
   x1+=60;
   x2+=60;
   }
}
while(1)
{
getmousepos(&button,&x,&y);
y1=140;
y2=160;
for(j=0;j<7;j++)
 {
  x1=200;
  x2=235;
  y1+=40;
  y2+=40;
  for(i=0;i<4;i++)
  {
          if((x<x2&&x>x1)&&(y<y2&&y>y1))
          {
          if((button&1)==1)
           {
```

```
 gotoxy(28,10);
bt=j*4+i;
setcolor(11);
outtextxy(x1+12,y1+7,text[j*4+i]);
if(num>pow(10.0,18))
exit();
delay(10);
delay(250);
delay(10);
switch (bt)
{
case  8 :
          addnum(1);
          break;
case  9 :
          addnum(2);
          break;
case  10 :
          addnum(3);
          break;
case  4 :
          addnum(4);
          break;
case  5 :
          addnum(5);
          break;
case  6 :
          addnum(6);
          break;
case  0 :
          addnum(7);
          break;
case  1 :
          addnum(8);
          break;
case  2 :
          addnum(9);
          break;
case  12 :
          addnum(0);
          break;
case  11 :
          operation(1);   // plus
          break;
```

```
case  15 :
          operation(2);    // minus
          break;
case  3 :
          operation(3);    // multiplication
          break;
case  7 :
          operation(4);     // division
          break;
case 13:
          doublezero();
          break;
case  14 :
          decimal();
          break;
case 16:
          m=m;
          printf("%25.5Lf",m); //memory call
          break;
case 20:
          printf("%25.5Lf",m);
          break;
case 19:
          plusminus();
          break;
case 17:
          m=m+num;       //memory plus
          break;
case 18:
          m=m-num;       //memory minus
          break;
case 21:
          clearm();
          break;
case 22 :
          square();
          break;
case 23:
          sqroot();
          break;
case 24:
          hidemouseptr();
          setcolor(1);
          cleardevice();
```

```
                setcolor(14);
                outtextxy(225,200,"THANK YOU");
                delay(2000);
                exit();
                break;
        case 25:
                allclear();
                break;
        case 26:
                clear();
                break;
        case 27:
                num=operation(5);               //  equalto
                break;
         }
         setcolor(1);
        outtextxy(x1+12,y1+7,text[j*4+i]);
         }
  }
 x1+=60;

        x2+=60;
}
 }
 }
}
void normalbutton(int x1,int x2,int y1,int y2,char *text)
{
setcolor(15);
rectangle(x1-2,y1-2,x2+1,y2+1);
rectangle(x1-1,y1-1,x2+2,y2+2);
setcolor(5);
rectangle(x1,y1,x2+2,y2+2);
rectangle(x1,y1,x2+1,y2+1);
setfillstyle(SOLID_FILL,14);
bar(x1,y1,x2,y2);
setcolor(1);
outtextxy(x1+12,y1+7,text);
k++;
}

initmouse()
{
 i.x.ax=0;
```

```
 int86 (0x33,&i,&o);
 return(o.x.ax);
}
hidemouseptr()
{
            i.x.ax=2;
            int86(0x33,&i,&o);
            return 0;
}

showmouseptr()
{
 i.x.ax=1;
 int86(0x33,&i,&o);
 return 0;
}
getmousepos(int *button,int *x,int *y)
{
 i.x.ax=3;
 int86(0x33,&i,&o);
 *button=o.x.bx;
 *x=o.x.cx;
 *y=o.x.dx;
 return 0;
}
/* Move mouse ptr to x,y */
movemouseptr(int *x,int *y)
{
 i.x.ax=4;
 int86(0x33,&i,&o);
 o.x.cx=*x;
 o.x.dx=*y;
 return 0;
}
addnum(int pass)
{   if(sq)
            newnum=1;

            if(newnum)
              {      if(d)
            {
              num=pass/(pow(10.0,d));
              d++;
              newnum=0;
```

```
          }
           else
          {  num=pass;
             newnum=0;
          }
           }
          else
          {
          if(d)
          {
             if(num<0)
                    num=num-pass/(pow(10.0,d));
             else
                    num=num+pass/(pow(10.0,d));
            d++;
          }
          else
          {
          num=num*10+pass;
          }
          }
 printf("%25.5Lf",num);
 return ;
}
operation(int opr)
{  long double pnum;
   pnum=num;

   if(newnum && (prop != 5) && memo)
   {
   }
   else
  {  newnum=1;
           d=0;
           sq=0;
           switch(prop)
          {
           case 1:
                    accum=accum+pnum;
                    break;
           case 2:
                    accum=accum-pnum;
                    break;
           case 3:
```

```
                accum=accum*pnum;
                break;
          case 4:
                accum=accum/pnum;
                break;
          default:
            accum=pnum;
          }
 }
          prop=opr;
          num=accum;
 printf("%25.5Lf",num);
 return num;
}
allclear()
{
 sq=0;
 accum=0;
 num=0;
 d=0;
 newnum=1;
 printf("%25.5Lf",num);
 return;
}
plusminus()
{ if(num!=0)
  {       num*=-1;
          printf("%25.5Lf",num);
  }
  return;
}
clearm()
{
m=0;
//printf("%25.5Lf",m);
return;
}
decimal()
{
 if(!d)
 {
 d=1;
          if(newnum==1)
          {
```

```
            num=0;
           }
  printf("%25.5Lf",num);
  }
  return;
}
square()
{
sq=1;
 num*=num;
 printf("%25.5Lf",num);
return;
}
sqroot()
{ sq=1;
 num=pow(num,0.5);
 printf("%25.5Lf",num);
return;
}
doublezero()
{
 if(d)
   {
            d++;
            d++;
   }
 else
  num*=100;
 printf("%25.5Lf",num);
 return;
}
clear()
{
num=0;
printf("%25.5Lf",num);
return;
}
```