

Forum:[Hack Forums](#)

Thread: [Rotating ascii cube \(Pascal\)](#)

PseudoMander - June 3, 2012, 6:29 am

[Video: <http://youtu.be/C97mcUHNhoo>]

Code program ascii3d;

uses crt;

type

TPoint = array[0..1] of Real;

Function XOffset(Z:Real) : Real;

Begin

XOffset := Z/2;

{Output: Assign the procedure name to the value.

If you forget to assign the function to the value,
you will get a trash value from the memory}

End;

Function YOffset(Z:Real) : Real;

Begin

YOffset := Z/3;

{Output: Assign the procedure name to the value.

If you forget to assign the function to the value,
you will get a trash value from the memory}

End;

Function Transform(X:Real;Y:Real;Z:Real) :TPoint;

VAR

P : Array[0..1] Of Real;

Begin

P[0]:=X+XOffset(Z)+20;

P[1]:=Y+YOffset(Z)+20;

Transform:= P;

End;

var

count: integer;

canvas : Array[1..40,1..40] of char;

i:tpoint;

i2:tpoint;

temp:integer;

steps:integer;

ti:integer;

temp2:integer;

chrr:char;

x:real;

y:real;

z:real;

begin

count:=0;

while 'a'='a' do begin

```

count:= (count+2)mod 360;
ClrScr;
WriteLn("");
for temp:= 1 to 40 do begin
for temp2:= 1 to 40 do begin
canvas[temp][temp2]:='.';
end;end;

for temp := 0 to 3 do begin
  for temp2 := 0 to 1 do begin
    x:=Cos((temp /4.0 +count/360)* pi*2)*16.6;
    y:=(temp2-0.5)*2*7;
    z:=Sin((temp /4.0 +count/360)* pi*2)*16.6;
    i:=Transform(x,y,z);
    i2:=Transform(x,-y,z);
    Steps:=16;
    for ti := 1 to Steps do begin
      canvas[round(i2[1]-((i2[1]-i[1])/ti))][round(i2[0]-((i2[0]-i[0])/ti))]:='&';
    end;
    x:=Cos(((temp+1) /4.0 +count/360)* pi*2)*16.6;
    y:=(temp2-0.5)*2*7;
    z:=Sin(((temp+1) /4.0 +count/360)* pi*2)*16.6;
    i2:=Transform(x,y,z);
    Steps:=16;
    for ti := 1 to Steps do begin
      canvas[round(i2[1]-((i2[1]-i[1])/ti))][round(i2[0]-((i2[0]-i[0])/ti))]:='&';
    end;
    Canvas[round(i[1])][round(i[0])]:='&';
    end;
end;

```

```

for temp:= 1 to 40 do begin
for temp2:= 1 to 40 do begin
chrr:= canvas[temp][temp2];
if chrr='.' then TextColor(LightBlue) ;
if chrr=',' then TextColor(Red) ;
if chrr='&' then TextColor(White) ;
Write(chrr);
end;
WriteLn("");
end;
Delay(60);
end;
end.

```

SIM-1033745 - June 3, 2012, 7:28 am

That's pretty amazing, what made you do this? Was it for a class?

Pseudonym - June 3, 2012, 7:40 am

Cool stuff.

Nice example of what can bit of math achieve.

PseudoMander - June 3, 2012, 8:17 am

(Jun 3, 2012 07:28 AM)Quentin Wrote: [\[CITE\]](#) That's pretty amazing, what made you do this? Was it for a class?

I wrote one in C a while back, I usually try to work with a multidimensional array, integers, floats, chars and functions as early as possible when familiarising myself with a language, the ascii canvas seems a sure fire solution to learning the basics of a new imperative language and thus variants of such are my equivalent of "hello world" when I need to learn or revise syntax.

Edit: Bonus scriptSpoiler [\(Click to View\)](#)Code program ascii3d;
uses crt;
type
 TPoint = array[0..1] of Real;

```
Function XOffset(Z:Real) : Real;  
Begin  
    XOffset := Z/2;  
{Output: Assign the procedure name to the value.  
  If you forget to assign the function to the value,  
  you will get a trash value from the memory}  
End;  
Function YOffset(Z:Real) : Real;  
Begin  
    YOffset := Z/3;  
{Output: Assign the procedure name to the value.  
  If you forget to assign the function to the value,  
  you will get a trash value from the memory}  
End;  
Function Transform(X:Real;Y:Real;Z:Real) :TPoint;  
VAR  
    P : Array[0..1] Of Real;  
Begin  
    P[0]:=X+XOffset(Z)+70;  
    P[1]:=Y+YOffset(Z)+30;  
    Transform:= P;  
End;  
var  
count: integer;  
canvas : Array[1..60,1..140] of char;  
i:tpoint;  
i2:tpoint;  
temp:integer;  
steps:integer;  
ti:integer;  
temp2:integer;  
chrr:char;  
x:real;  
y:real;  
z:real;  
begin  
count:=0;  
while 'a'='a' do begin  
count:= (count+1)mod 360;  
ClrScr;
```

```

WriteLn("");
for temp:= 1 to 60 do begin
for temp2:= 1 to 140 do begin
canvas[temp][temp2]:='.';
end;end;

for temp := 0 to 7 do begin
  for temp2 := 0 to 1 do begin
    x:=Cos((temp /8.0 +count/360)* pi*2)*34.6;
    y:=(temp2-0.5)*2*13;
    z:=Sin((temp /8.0 +count/360)* pi*2)*34.6;
    i:=Transform(x,y,z);
    i2:=Transform(Cos((temp /32.0 +count/360)* pi*2)*1,-y,Cos((temp /32.0 +count/360)* pi*2)*1);
    Steps:=32;
    for ti := 1 to Steps do begin
      canvas[round(i2[1]-((i2[1]-i[1])/ti))][round(i2[0]-((i2[0]-i[0])/ti))]:='&';
    end;
    x:=Cos(((temp+1) /8.0 +count/360)* pi*2)*34.6;
    y:=(temp2-0.5)*2*13;
    z:=Sin(((temp+1) /8.0 +count/360)* pi*2)*34.6;
    i2:=Transform(x,y,z);
    Steps:=32;
    for ti := 1 to Steps do begin
      canvas[round(i2[1]-((i2[1]-i[1])/ti))][round(i2[0]-((i2[0]-i[0])/ti))]:='&';
    end;
    Canvas[round(i[1])][round(i[0])]:='&';
  end;
end;

for temp:= 1 to 60 do begin
for temp2:= 1 to 140 do begin
chrr:= canvas[temp][temp2];
if chrr='.' then TextColor(LightBlue) ;
if chrr=',' then TextColor(Red) ;
if chrr='&' then TextColor(White) ;
Write(chrr);
end;
WriteLn("");
end;
Delay(60);
end;
end. I'll put it in a spoiler tag to save room since it's astoundingly similar to the previous shape.
[Video: http://youtu.be/iJHPSB020d0]

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tinkerman2000 - June 3, 2012, 2:40 pm

Good show love!!!..

What math did you use??? to achieve this????