**MINI PROJECT**

**Title:** Animated Atoms

**Description:**

Our project is animated atoms where we have created two function namely amplification and stimulation.

The process of increasing the magnitude of a variable quantity, especially the magnitude of voltage, power, or current, without altering any other quality.

In amplification, we have shown how a single atom is multiplied into multiple atoms.

Stimulated emission is the process by which an incoming photon of a specific frequency can interact with an excited atomic electron (or other excited molecular state), causing it to drop to a lower energy level.

The liberated energy transfers to the electromagnetic field, creating a new photon with a phase, frequency, polarization, and direction of travel that are all identical to the photons of the incident wave.

In stimulation we show how a single photon when stimulated with atom creates multiple atoms.

Here, we have represented atoms and photons using circle function which move and change colors according to the functions we have applied on them.

**Functions:**

**Built in:**

* void outtextxy(int x, int y, char \*string);
* void setfillstyle(int pattern, int color)
* void floodfill(int x, int y, int border\_color)
* void settextstyle(int font, int direction,int font\_size);
* circle(x, y, radius);
* void setcolor(int color);
* setbkcolor(int color);

**User defined:**

* void amplification()
* void stimulator()

**Program code:**

#include<stdio.h>

#include<conio.h>

#include<graphics.h>

#include<dos.h>

void amplification();

void stimulator();

void main()

{

int gd=DETECT,gm,x,y;

initgraph(&gd,&gm,"C:\\TURBOC3\\BGI");

amplification();

stimulator();

getch();

closegraph();

}

void amplification()

{

setbkcolor(BLACK); //Background color

setcolor(WHITE);

circle(170,230,8);

setfillstyle(1,YELLOW);

floodfill(170,230,WHITE);

setcolor(GREEN);

settextstyle(11,0,2);

outtextxy(150,250,"ATOM");

delay(100);

settextstyle(7,0,4);

setcolor(WHITE);

outtextxy(110,380,"Amplification of Atoms");

delay(1000);

setcolor(WHITE);

circle(250,180,8); //SECOND\_UP

circle(250,280,8);

floodfill(250,180,WHITE);

floodfill(250,280,WHITE);

delay(500);

circle(330,120,8); //THIRD\_UP

circle(330,195,8);

circle(330,265,8);

circle(330,340,8); //THIRD\_DOWN

floodfill(330,120,WHITE);

floodfill(330,195,WHITE);

floodfill(330,265,WHITE);

floodfill(330,340,WHITE);

delay(500);

circle(410,80,8);

circle(410,125,8);

circle(410,165,8);

circle(410,210,8);

circle(410,245,8);

circle(410,285,8);

circle(410,325,8);

circle(410,370,8);

floodfill(410,80,WHITE);

floodfill(410,125,WHITE);

floodfill(410,165,WHITE);

floodfill(410,210,WHITE);

floodfill(410,245,WHITE);

floodfill(410,285,WHITE);

floodfill(410,325,WHITE);

floodfill(410,370,WHITE);

delay(2000);

cleardevice();

}

void stimulator()

{

setbkcolor(BLACK); // Background color

setcolor(YELLOW);

settextstyle(7,0,3);

outtextxy(100,50,"Stimulation of ATOM to Release Photons");

setcolor(WHITE);

setfillstyle(1,RED); // ATOM

circle(310,230,30);

floodfill(310,230,WHITE);

setcolor(YELLOW);

settextstyle(11,0,2);

outtextxy(296,270,"ATOM");

setcolor(WHITE);

setfillstyle(1,GREEN); // PHOTON

circle(190,110,5);

floodfill(190,110,WHITE);

setcolor(GREEN);

//outtextxy(170,120,"PHOTON");

delay(1500);

//setcolor(GREEN);

//outtextxy(170,120,"PHOTON");

setfillstyle(1,BLACK);

floodfill(190,110,WHITE);

setcolor(BLACK);

circle(190,110,5);

setcolor(WHITE);

circle(210,130,5);

setfillstyle(1,GREEN);

floodfill(210,130,WHITE);

delay(300);

setfillstyle(1,BLACK);

floodfill(210,130,WHITE);

setcolor(BLACK);

circle(210,130,5);

setcolor(WHITE);

circle(230,150,5);

setfillstyle(1,GREEN);

floodfill(230,150,WHITE);

delay(300);

setfillstyle(1,BLACK);

floodfill(230,150,WHITE);

setcolor(BLACK);

circle(230,150,5);

setcolor(WHITE);

circle(250,170,5);

setfillstyle(1,GREEN);

floodfill(250,170,WHITE);

delay(300);

setfillstyle(1,BLACK);

floodfill(250,170,WHITE);

setcolor(BLACK);

circle(250,170,5);

setcolor(WHITE);

circle(270,190,5);

setfillstyle(1,GREEN);

floodfill(270,190,WHITE);

delay(300);

setfillstyle(1,BLACK);

floodfill(270,190,WHITE);

setcolor(BLACK);

circle(270,190,5);

setcolor(WHITE);

circle(295,215,5);

setfillstyle(1,GREEN);

floodfill(295,215,WHITE);

delay(300);

setfillstyle(1,RED);

floodfill(295,215,WHITE);

setcolor(RED);

circle(295,215,5);

setcolor(WHITE);

setfillstyle(1,YELLOW); // ATOM

circle(310,230,30);

floodfill(310,230,WHITE);

setcolor(WHITE);

delay(300);

setfillstyle(1,RED); // ATOM

circle(310,230,30);

floodfill(310,230,WHITE);

setcolor(WHITE);

circle(346,225,5);

setfillstyle(1,GREEN);

floodfill(346,225,WHITE);

circle(346,235,5);

floodfill(346,235,WHITE);

delay(800);

setfillstyle(1,BLACK);

floodfill(346,225,WHITE);

floodfill(346,235,WHITE);

setcolor(BLACK);

circle(346,225,5);

circle(346,235,5);

setcolor(WHITE);

circle(365,205,5);

setfillstyle(1,GREEN);

floodfill(365,205,WHITE);

circle(365,255,5);

floodfill(365,255,WHITE);

delay(300);

setfillstyle(1,BLACK);

floodfill(365,205,WHITE);

floodfill(365,255,WHITE);

setcolor(BLACK);

circle(365,205,5);

circle(365,255,5);

setcolor(WHITE);

circle(385,185,5);

setfillstyle(1,GREEN);

floodfill(385,185,WHITE);

circle(385,275,5);

floodfill(385,275,WHITE);

delay(300);

setfillstyle(1,BLACK);

floodfill(385,185,WHITE);

floodfill(385,275,WHITE);

setcolor(BLACK);

circle(385,185,5);

circle(385,275,5);

setcolor(WHITE);

circle(405,165,5);

setfillstyle(1,GREEN);

floodfill(405,165,WHITE);

circle(405,295,5);

floodfill(405,295,WHITE);

delay(300);

setfillstyle(1,BLACK);

floodfill(405,165,WHITE);

floodfill(405,295,WHITE);

setcolor(BLACK);

circle(405,165,5);

circle(405,295,5);

setcolor(WHITE);

circle(425,145,5);

setfillstyle(1,GREEN);

floodfill(425,145,WHITE);

circle(425,315,5);

floodfill(425,315,WHITE);

delay(300);

setfillstyle(1,BLACK);

floodfill(425,145,WHITE);

floodfill(425,315,WHITE);

setcolor(BLACK);

circle(425,145,5);

circle(425,315,5);

setcolor(WHITE);

circle(445,125,5);

setfillstyle(1,GREEN);

floodfill(445,125,WHITE);

circle(445,335,5);

floodfill(445,335,WHITE);

delay(300);

setfillstyle(1,BLACK);

floodfill(445,125,WHITE);

floodfill(445,335,WHITE);

setcolor(BLACK);

circle(445,125,5);

circle(445,335,5);

setcolor(WHITE);

circle(465,105,5);

setfillstyle(1,GREEN);

floodfill(465,105,WHITE);

circle(465,355,5);

floodfill(465,355,WHITE);

delay(300);

setfillstyle(1,BLACK);

floodfill(465,105,WHITE);

floodfill(465,355,WHITE);

setcolor(BLACK);

circle(465,105,5);

circle(465,355,5);

setcolor(WHITE);

circle(485,95,5);

setfillstyle(1,GREEN);

floodfill(485,95,WHITE);

circle(485,375,5);

floodfill(485,375,WHITE);

circle(190,110,5);

floodfill(190,110,WHITE);

setcolor(YELLOW);

settextstyle(11,0,2);

outtextxy(170,120,"PHOTON");

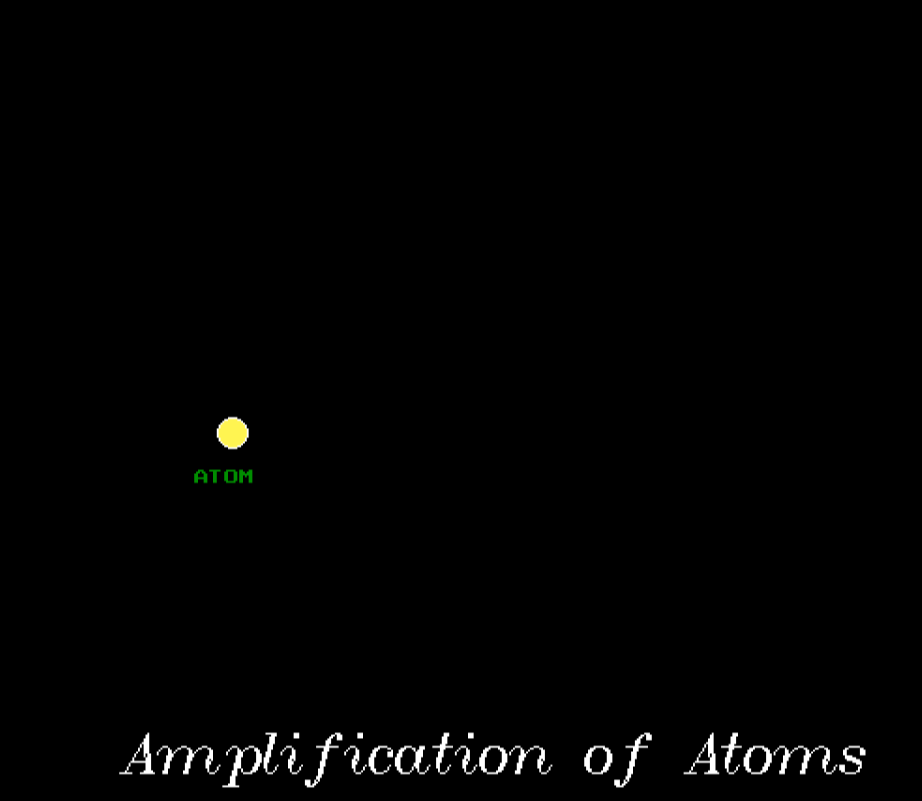
outtextxy(465,110,"PHOTON");

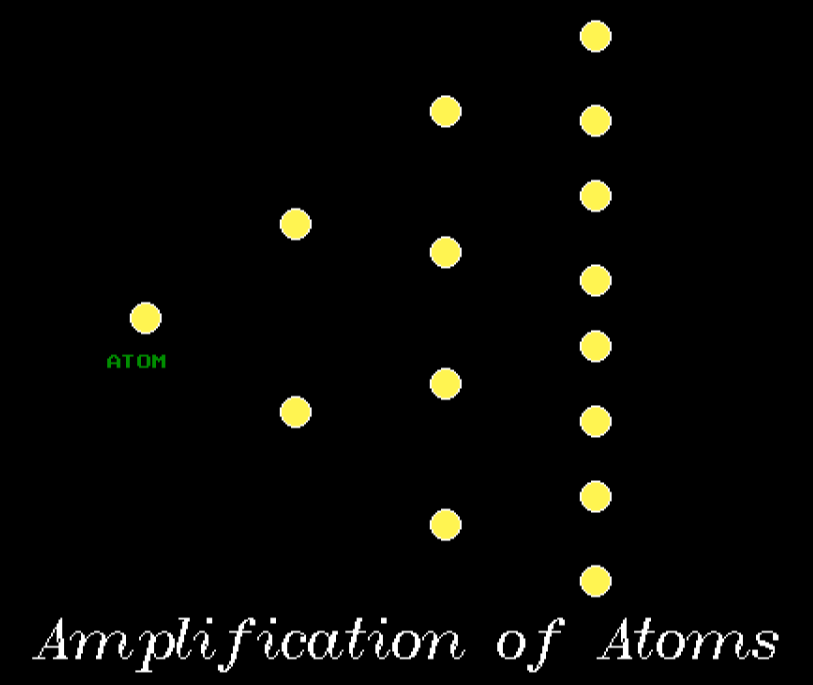
outtextxy(465,390,"PHOTON");

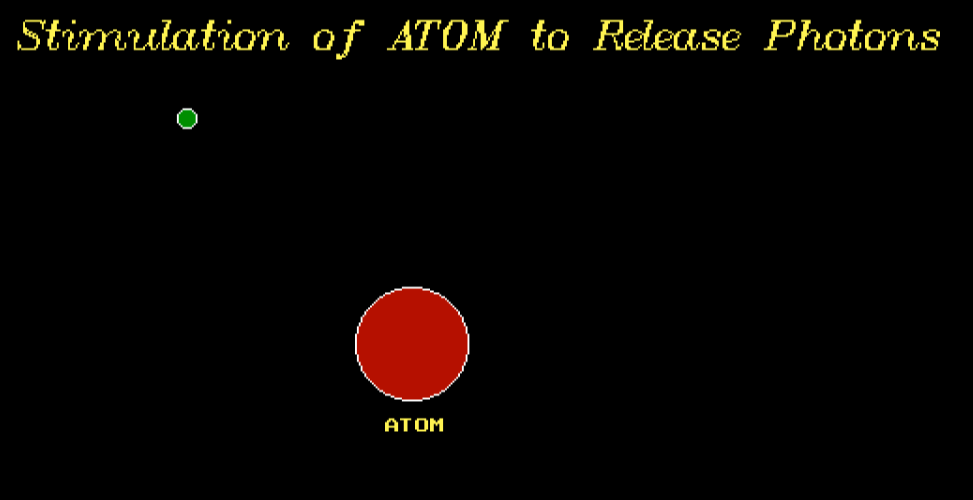
delay(1000);

}

**Output:**





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