

B.Tech / M.tech Lab report format

For CSE Department, NIT Mizoram

General Format:

Your lab reports are to be typed or hand written , single spaced (extra line of space between paragraphs), with normal one-inch margins. Be careful to have correct spelling and proper English grammar, as these will be taken into consideration when your report is graded. **Back side** of the page should be used only for **Images** and **evolution purpose**.

Contents of the Lab Report

1. Title Page (required):

Your title page must conform to the approved title page for the Computer Science and Engineering Department NIT Mizoram.

2. Table of Contents

3. Experiments:

All the experiment must contain the following:

- Program/Experiment no
- Title of the Program/Experiment
- Objective : The objective is a concise statement outlining the purpose of the experiment. e.g. To determine the boiling point of H₂O
- Description : overview, algorithm, Example etc.
- Source Program
- Output

Sample Copy

Computer Graphics Laboratory (CSP 1604)

**Lab Sessional Report Submitted to
National Institute of Technology, Mizoram
for**



**Bachelor of Technology
in
Computer Science and Engineering Department**

**Submitted by
[STUDENT NAME] (BTXXCS001)**

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Table of Contents

Exp. No	Name of the Experiments	Page no	Date of Experiment	Date of Submission	Faculty Signature
1	BRESENHAM'S Algorithm For Line Drawing	1-3		01-01-2017	

For each program you have to write :

Program/Experiment No:1

Program/Experiment Name: BRESENHAM'S Algorithm For Line Drawing.

Description: The Bresenham algorithm is an incremental scan conversion algorithm. The big advantage of this algorithm is that, it uses only integer calculations. Moving across the x axis in unit intervals and at each step choose between two different y coordinates.

Algorithm:

1. Start.
2. Declare variables x,y,x1,y1,x2,y2,p,dx,dy and also declare gdriver=DETECT,gmode.
3. Initialize the graphic mode with the path location in TC folder.
4. Input the two line end-points and store the left end-points in (x1,y1).
5. Load (x1,y1) into the frame buffer; that is, plot the first point put $x=x1, y=y1$.
6. Calculate $dx=x2-x1$ and $dy=y2-y1$, and obtain the initial value of decision parameter p as:
 - a. $p=(2dy-dx)$.
7. Starting from first point (x,y) perform the following test:
8. Repeat step 9 while $(x \leq x2)$.
9. If $p < 0$, next point is $(x+1,y)$ and $p=(p+2dy)$.
10. Otherwise, the next point to plot is $(x+1,y+1)$ and $p=(p+2dy-2dx)$.
11. Place pixels using putpixel at points (x,y) in specified colour.
12. Close Graph.
13. Stop.

Source Code:

```
#include<stdio.h>
#include<conio.h>
#include<graphics.h>
void main()
{
    int x,y,x1,y1,x2,y2,p,dx,dy;
    int gdriver=DETECT,gmode;
    initgraph(&gdriver,&gmode,"C:\\tc\\BGI.");
    printf("\nEnter the x-coordinate of the first point ::");
    scanf("%d",&x1);
    printf("\nEnter the y-coordinate of the first point ::");

    scanf("%d",&y1);
    printf("\nEnter the x-coordinate of the second point ::");
```

```
scanf("%d",&x2);
printf("\nEnter the y-coordinate of the second point ::");
scanf("%d",&y2);
x=x1;
y=y1;
dx=x2-x1;
dy=y2-y1;
putpixel(x,y,2);
p=(2dy-dx);
while(x<=x2)
{
if(p<0)
{
x=x+1;
p=2*x-dx;
}
else
{
x=x+1;
y=y+1;
p=p+2*dy;
}
putpixel(x,y,7);
}
getch();
closegraph();
}
```

Output:

```
Enter the x-coordinate of the first point ::180
Enter the y-coordinate of the first point ::250
Enter the x-coordinate of the second point ::500
Enter the y-coordinate of the second point ::600
```

