LAB PRACTICAL

Objective: Write a program to implement Linear Separability for AND/OR function.

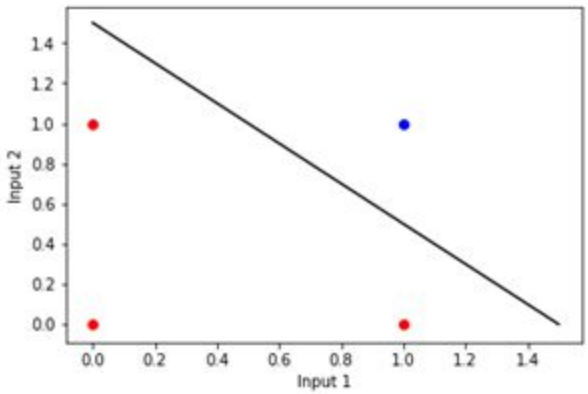
Aim: Program to implement Linear Separability for AND function

Code:

```
import numpy as np
import matplotlib as plt
x = np.array([0,1,0])
y = np.array([0,0,1])
plt.pyplot.scatter(x,y,c='red')
plt.pyplot.scatter(1,1,c="blue")
plt.pyplot.xlabel('Input 1')
plt.pyplot.ylabel('Input 2')
w=-1
b=1.5
x = np.linspace(0,1.5)
plt.pyplot.plot(x,w*x+b,c='black')
plt.pyplot.show()
```

Output:

```
import numpy as np
import matplotlib as plt
x = np.array([0,1,0])
y = np.array([0,0,1])
plt.pyplot.scatter(x,y,c='red')
plt.pyplot.scatter(1,1,c="blue")
plt.pyplot.xlabel('Input 1')
plt.pyplot.ylabel('Input 2')
w=-1
b=1.5
x = np.linspace(0,1.5)
plt.pyplot.plot(x,w*x+b,c='black')
plt.pyplot.show()
```



Name: Rashmi Rana Enrollment No:170413

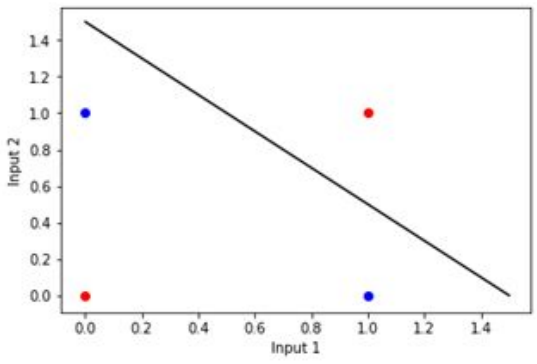
Aim: Program to implement Linear Separability for OR function

Code:

```
import numpy as np
import matplotlib as plt
x = np.array([0,1])
y = np.array([0,1])
plt.pyplot.scatter(x,y,c='red')
x = np.array([1,0])
y = np.array([0,1])
plt.pyplot.scatter(x,y,c="blue")
plt.pyplot.xlabel('Input 1')
plt.pyplot.ylabel('Input 2')
w=-1
b=1.5
x = np.linspace(0,1.5)
plt.pyplot.plot(x,w*x+b,c='black')
plt.pyplot.show()
```

Output:

```
In [13]: import numpy as np
         import matplotlib as plt
         x = np.array([0,1])
         y = np.array([0,1])
         plt.pyplot.scatter(x,y,c='red')
         x = np.array([1,0])
         y = np.array([0,1])
         plt.pyplot.scatter(x,y,c="blue")
         plt.pyplot.xlabel('Input 1')
         plt.pyplot.ylabel('Input 2')
         w=-1
         b=1.5
         x = np.linspace(0,1.5)
         plt.pyplot.plot(x,w*x+b,c='black')
         plt.pyplot.show()
```



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