```
from tkinter import *
root =Tk()
canvas_height=1000
canvas_width=1280
w=Canvas(root,height=canvas_height,width=canvas_width)
w.pack()
w.create_line(2,90,700,90)
w.create_line(2,90,2,130)
w.create_line(2,130,700,130)
w.create_line(700,130,700,90)
w.create_line(2,185,700,185)
w.create_line(2,185,2,233)
w.create_line(2,233,700,233)
w.create_line(700,185,700,233)


distance={
        10:"Shortest path: Ludhiana->Jalandhar->Amritsar->Chandigarh-
>Patiala->Ludhiana\n\nDistance: 538Km",
        20:"Shortest path: Jalandhar->Amritsar->Chandigarh->Patiala-
>Ludhiana->Jalandhar\n\nDistance: 538Km",
        30:"Shortest path: Amritsar->Chandigarh->Patiala->Ludhiana-
>Jalandhar->Amritsar\n\nDistance: 538Km",
        40:"Shortest path: Chandigarh->Patiala->Ludhiana->Jalandhar-
>Amritsar->Chandigarh\n\nDistance: 538Km",
        50:"Shortest path: Patiala->Ludhiana->Jalandhar->Amritsar-
>Chandigarh->Patiala\n\nDistance: 538Km",

        11:"Shortest Path: Ludhiana->Ludhiana\n\nDistance: 0Km",
        12:"Shortest Path: Ludhiana->Jalandhar\n\nDistance: 61Km",
        13:"Shortest Path: Ludhiana->Amritsar\n\nDistance: 140Km",
        14:"Shortest Path: Ludhiana->Chandigarh\n\nDistance: 106Km",
        15:"Shortest Path: Ludhiana->Patiala\n\nDistance: 93Km",


        21:"Shortest Path: Jalandhar->Ludhiana\n\nDistance: 61Km",
        22:"Shortest Path: Jalandhar->Jalandhar\n\nDistance: 0Km",
        23:"Shortest Path: Jalandhar->Amritsar\n\nDistance: 80Km",
        24:"Shortest Path: Jalandhar->Chandigarh\n\nDistance: 149Km",
        25:"Shortest Path: Jalandhar->Patiala\n\nDistance: 154Km",


        31:"Shortest Path: Amritsar->Ludhiana\n\nDistance: 140Km",
        32:"Shortest Path: Amritsar->Jalandhar\n\nDistance: 80Km",
        33:"Shortest Path: Amritsar->Amritsar\n\nDistance: 0Km",
        34:"Shortest Path: Amritsar->Chandigarh\n\nDistance: 229Km",
        35:"Shortest Path: Amritsar->Patiala\n\nDistance: 235Km",


        41:"Shortest Path: Chandigarh->Ludhiana\n\nDistance: 106Km",
        42:"Shortest Path: Chandigarh->Jalandhar\n\nDistance: 149Km",
        43:"Shortest Path: Chandigarh->Amritsar\n\nDistance: 229Km",
        44:"Shortest Path: Chandigarh->Chandigarh\n\nDistance: 0Km",
        45:"Shortest Path: Chandigarh->Patiala\n\nDistance: 75Km",


        51:"Shortest Path: Patiala->Ludhiana\n\nDistance: 93Km",
        52:"Shortest Path: Patiala->Jalandhar\n\nDistance: 154Km",
```

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        53:"Shortest Path: Patiala->Amritsar\n\nDistance: 235Km",
        54:"Shortest Path: Patiala->Chandigarh\n\nDistance: 75Km",
        55:"Shortest Path: Patiala->Patiala\n\nDistance: 0Km"
          }
root.geometry("800x500")
def fun1():
    v1=var1.get()
    v2=var2.get()
    if v1==0:
        lbl.config(text="Please select source city")
    else:
        lbl.config(text=distance[v1*10+v2])
var1 = IntVar()
var2 = IntVar()
label0 = Label( root, text="Select one city from source to find shortest
path to travel all cities\nSelect both source and destination to find
distance distance between two cities\n")
label0.pack()
label0.place(x="200",y="0")
label1 = Label( root, text="SELECT THE SOURCE CITY")
label1.pack()
label1.place(x="300",y="50")
R1 = Radiobutton(root, text="Ludhiana", variable=var1, value=1)
R1.pack()
R1.place(x="150",y="100")
R2 = Radiobutton(root, text="Jalandhar", variable=var1, value=2)
R2.pack()
R2.place(x="250",y="100")
R3 = Radiobutton(root, text="Amritsar", variable=var1, value=3)
R3.pack()
R3.place(x="350",y="100")
R4 = Radiobutton(root, text="Chandigarh", variable=var1, value=4)
R4.pack()
R4.place(x="450",y="100")
R5 = Radiobutton(root, text="Patiala", variable=var1, value=5)
R5.pack()
R5.place(x="550",y="100")
label2 = Label( root, text="SELECT THE DESTINATION CITY")
label2.pack()
label2.place(x="280",y="150")
R1 = Radiobutton(root, text="Ludhiana", variable=var2, value=1)
R1.pack()
R1.place(x="150",y="200")
R2 = Radiobutton(root, text="Jalandhar", variable=var2, value=2)
R2.pack()
R2.place(x="250",y="200")
R3 = Radiobutton(root, text="Amritsar", variable=var2, value=3)
R3.pack()
R3.place(x="350",y="200")
R4 = Radiobutton(root, text="Chandigarh", variable=var2, value=4)
R4.pack()
R4.place(x="450",y="200")
R5 = Radiobutton(root, text="Patiala", variable=var2, value=5)
R5.pack()
R5.place(x="550",y="200")
btn=Button(root,text="CALCULATE DISTANCE",bg="green",bd=5,command=fun1)
btn.pack()
btn.place(x="300",y="250")
```

```
lbl=Label(root)
lbl.pack()
lbl.place(x="200",y="300")
root.mainloop()
```