User Documentation

Why I chose this project ¿¡

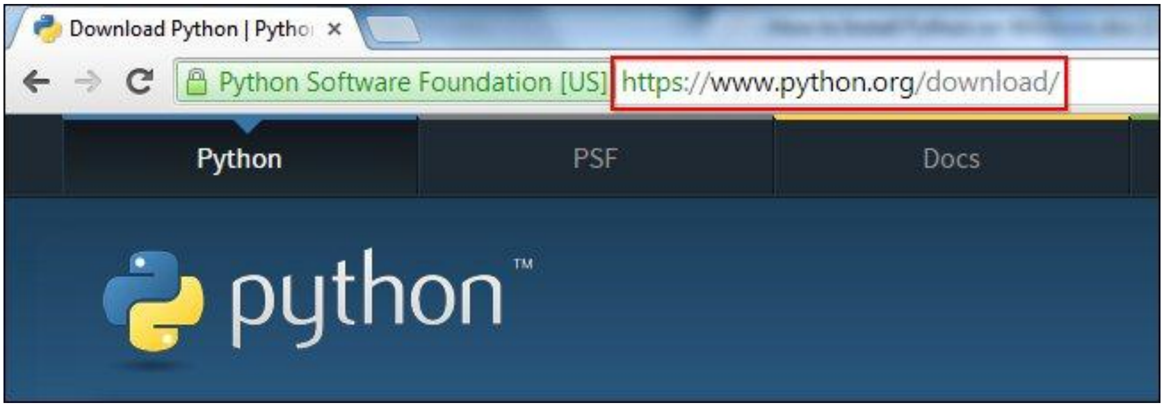
Dubai Metro is one of the newest metro systems in the world & is already proving to be one of the lifelines of a truly sprawling commercial city not to mention the glitz and glamour attached to it thus making it a must-see for all tourists. As the Dubai Metro presently covers 47 stations and is slated to be extended even further it is one of the best ways to travel within the city not only for its residents but for tourists as well. The journey commences with buying of a ticket and there are a number of travel cards depending on how much you will travel.

One of the main reasons why I chose this project was because I wanted to challenge myself, since I had to learn extra concepts which I have put into use in this project.

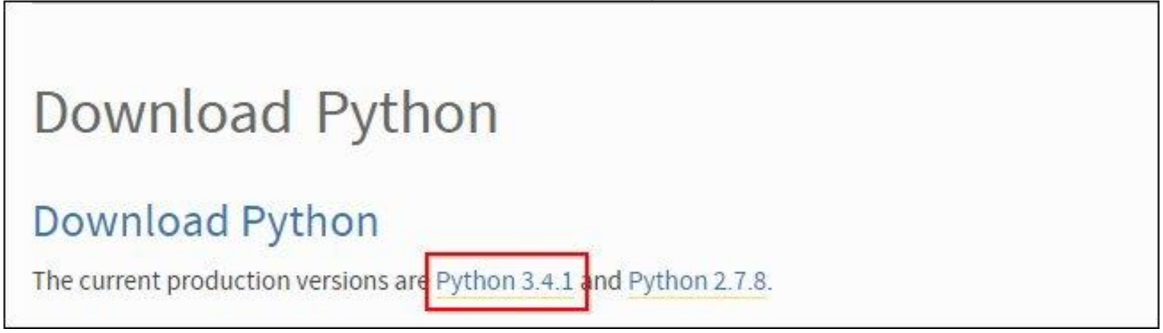
Another reason, was to help loads of tourist coming to Dubai to plan their journey. This saves their time to figure out the information required for their journey that is cost of each journey, next train’s time, number of stations ,interchange of stations (when required) and Feeder Buses from destination station .It also has a button for Job Applicants which opens a Job Application form. Another feature added to this is Private Access for officials to Add, Rename, Delete, Display & Display Job Applications submitted.

How to install Python:

- If you don’t already have a copy of Python installed on your computer, you will need to open up your Internet browser and go to the Python download page.


Download Python | Pytho
Python Software Foundation [US]
https://www.python.org/download/
Python
PSF
Docs
python™

- Now that you are on the download page, select which of the software builds you would like to download. For the purposes of this article we will use the most up to date version available (Python 3.4.1).

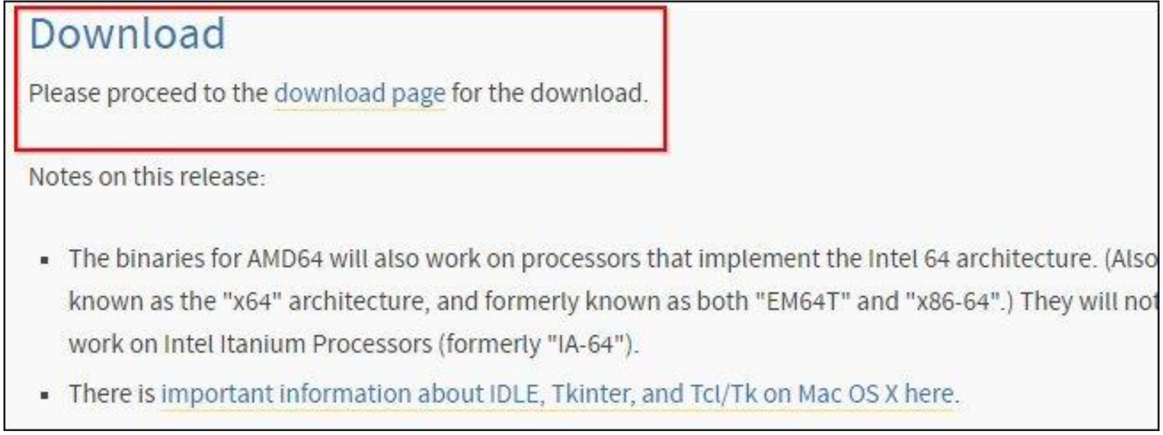


Download Python

Download Python

The current production versions are Python 3.4.1 and Python 2.7.8.

- Once you have clicked on that, you will be taken to a page with a description of all the new updates and features of 3.4.1, however, you can always read that while the download is in process. Scroll to the bottom of the page till you find the “Download” section and click on the link that says “download page.”



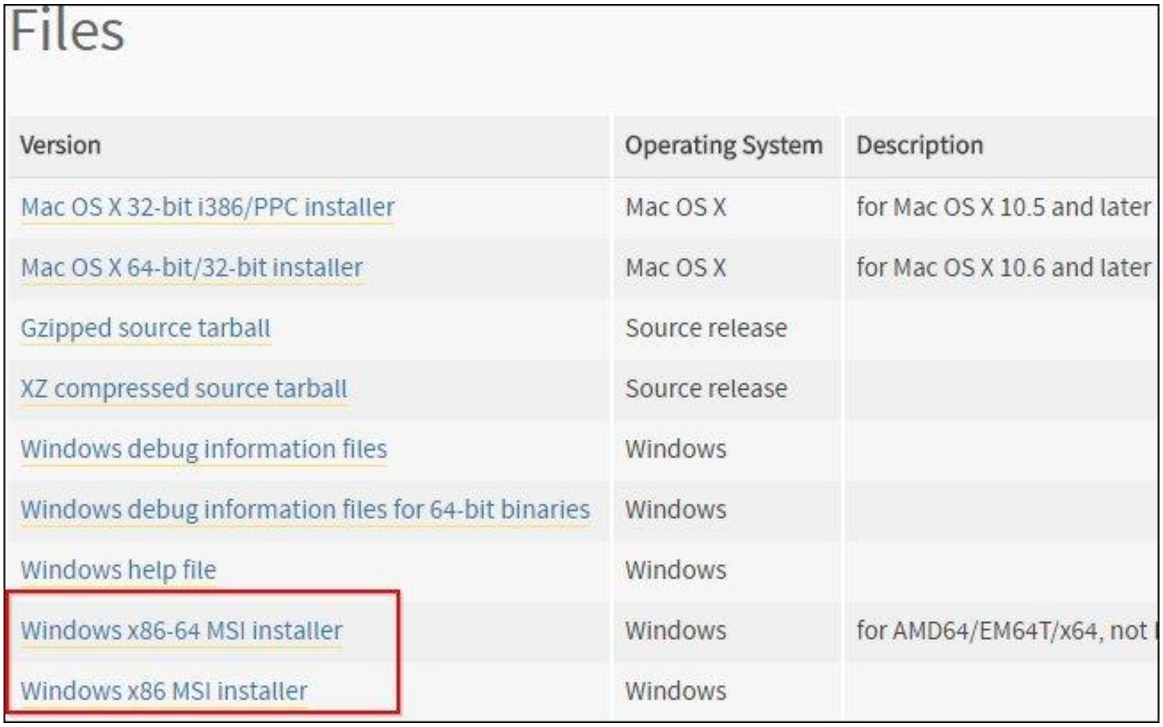
Download

Please proceed to the download page for the download.

Notes on this release:

- The binaries for AMD64 will also work on processors that implement the Intel 64 architecture. (Also known as the "x64" architecture, and formerly known as both "EM64T" and "x86-64".) They will not work on Intel Itanium Processors (formerly "IA-64").
- There is important information about IDLE, Tkinter, and Tcl/Tk on Mac OS X here.

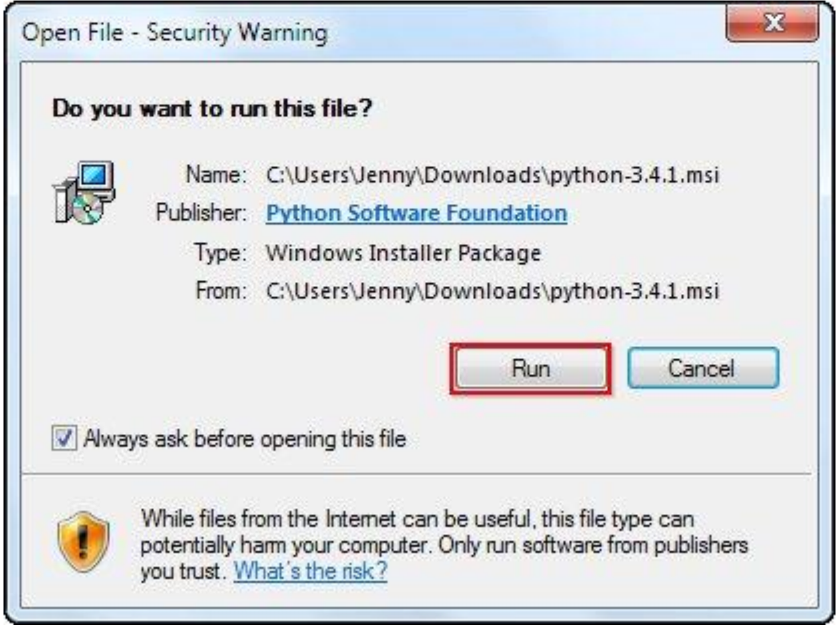
- Now you will scroll all the way to the bottom of the page and find the “Windows x86 MSI installer.” If you want to download the 86-64 bit MSI, feel free to do so. We believe that even if you have a 64-bit operating system installed on your computer, the 86-bit MSI is preferable. We say this because it will still run well and sometimes, with the 64-bit architectures, some of the compiled binaries and Python libraries don’t work well.



Files

Version	Operating System	Description
Mac OS X 32-bit i386/PPC installer	Mac OS X	for Mac OS X 10.5 and later
Mac OS X 64-bit/32-bit installer	Mac OS X	for Mac OS X 10.6 and later
Gzipped source tarball	Source release	
XZ compressed source tarball	Source release	
Windows debug information files	Windows	
Windows debug information files for 64-bit binaries	Windows	
Windows help file	Windows	
Windows x86-64 MSI installer	Windows	for AMD64/EM64T/x64, not
Windows x86 MSI installer	Windows	

- **Installing Python**
  Once you have downloaded the Python MSI, simply navigate to the download location on your computer, double clicking the file and pressing Run when the dialog box pops up.



Open File - Security Warning

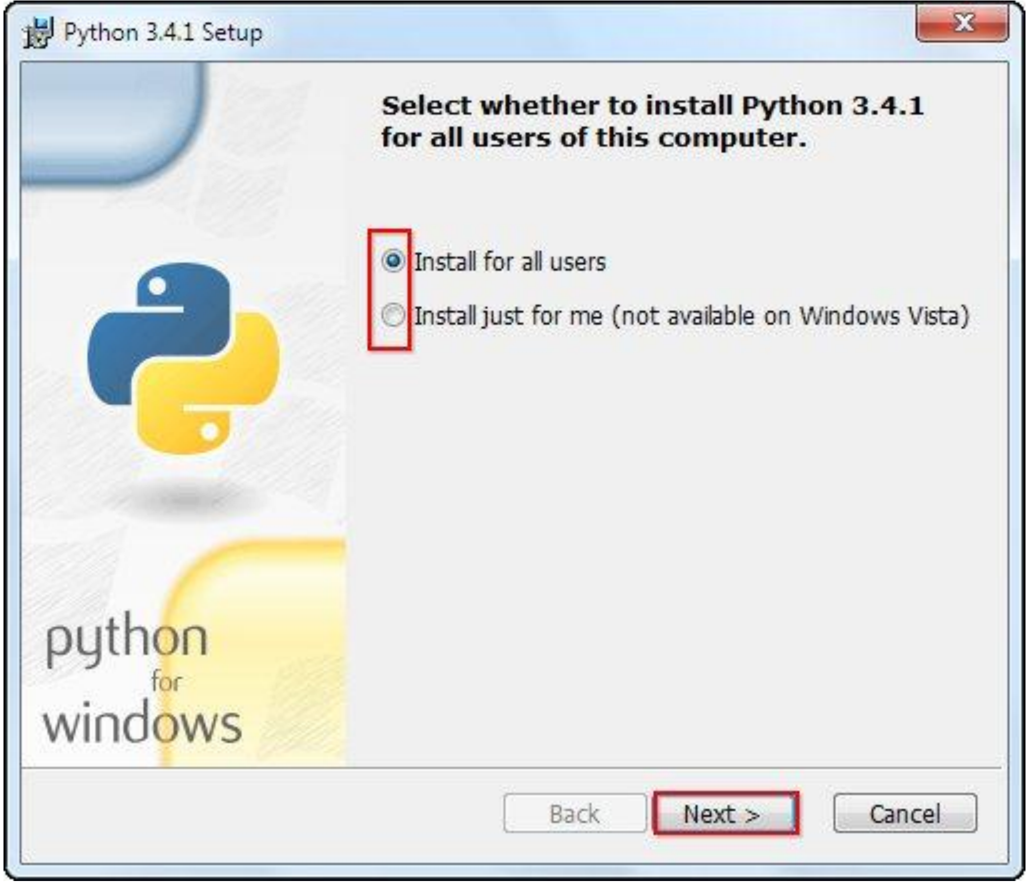
Do you want to run this file?

Name: C:\Users\Jenny\Downloads\python-3.4.1.msi
Publisher: Python Software Foundation
Type: Windows Installer Package
From: C:\Users\Jenny\Downloads\python-3.4.1.msi

☑ Always ask before opening this file

While files from the Internet can be useful, this file type can potentially harm your computer. Only run software from publishers you trust. What's the risk?

- If you are the only person who uses your computer, simply leave the “Install for all users” option selected. If you have multiple accounts on your PC and don’t want to install it across all accounts, select the “Install just for me” option then press “Next.”



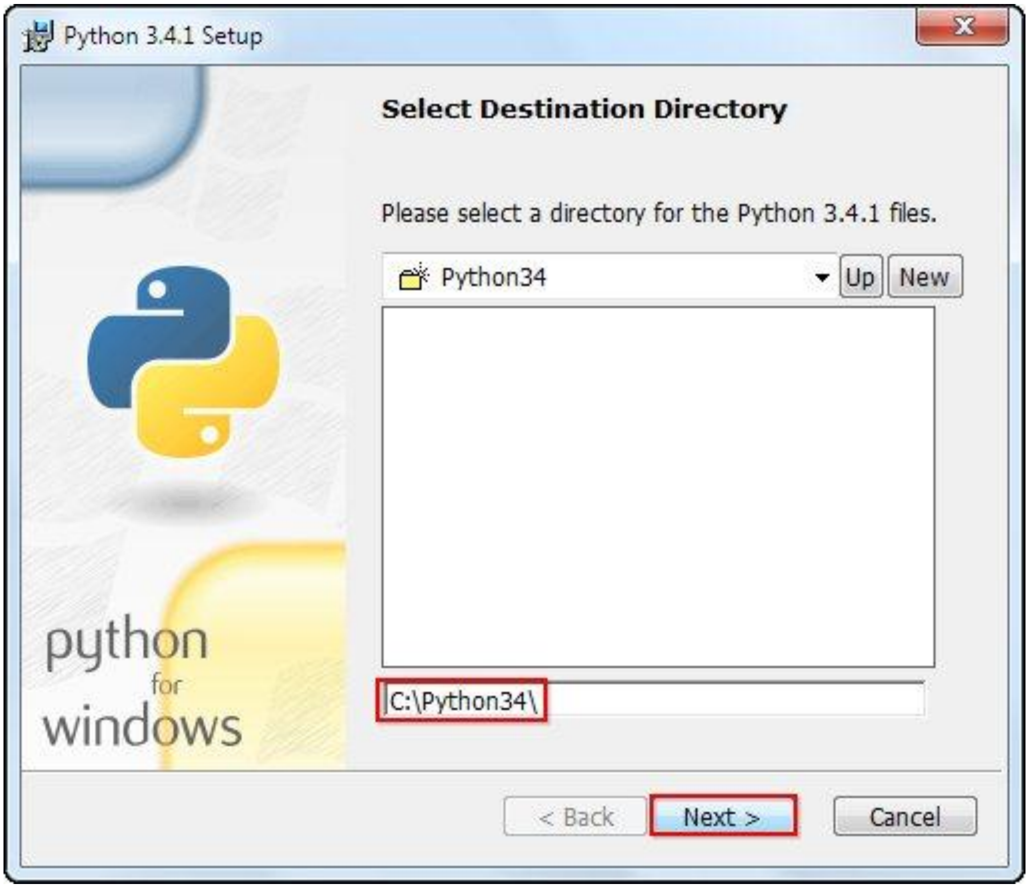
Python 3.4.1 Setup

Select whether to install Python 3.4.1 for all users of this computer.

● Install for all users

○ Install just for me (not available on Windows Vista)

- If you want to change the install location, feel free to do so; however, it is best to leave it as is and simply select next.



Python 3.4.1 Setup

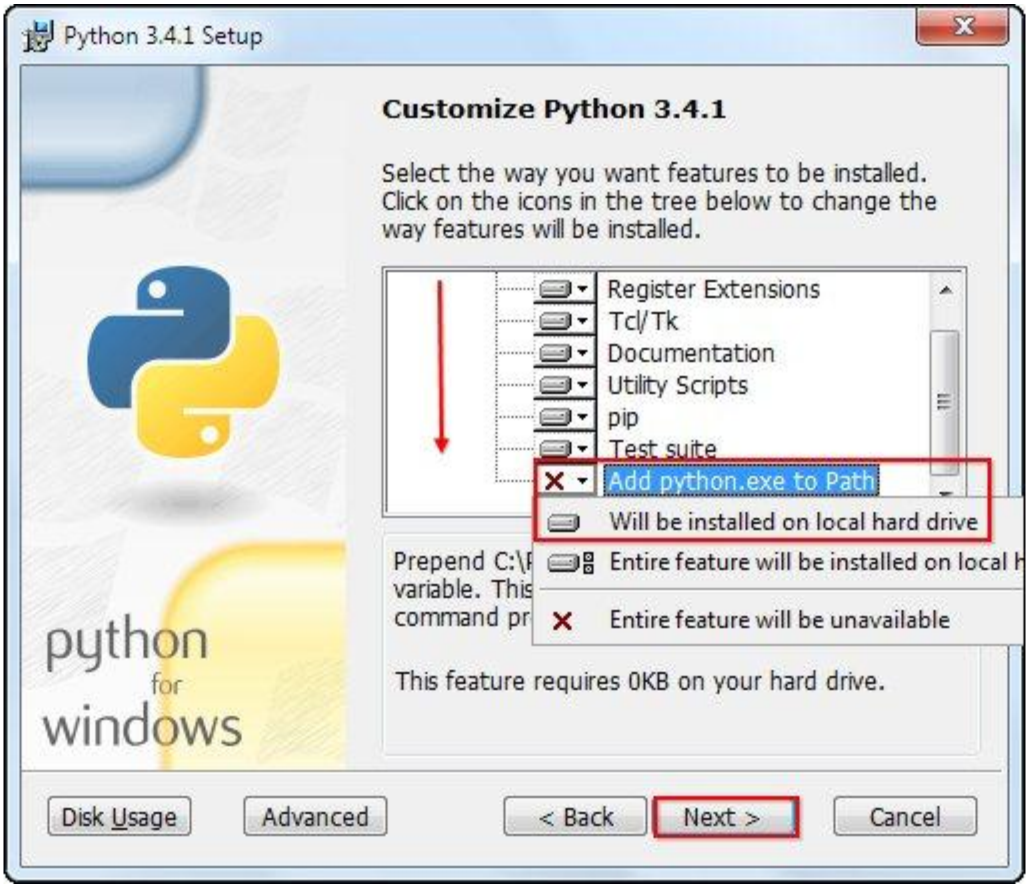
Select Destination Directory

Please select a directory for the Python 3.4.1 files.

Python34

C:\Python34\

- Scroll down in the window and find the “Add Python.exe to Path” and click on the small red “x.” Choose the “Will be installed on local hard drive” option then press “Next.”



Python 3.4.1 Setup

Customize Python 3.4.1

Select the way you want features to be installed. Click on the icons in the tree below to change the way features will be installed.

- Register Extensions
- Tcl/Tk
- Documentation
- Utility Scripts
- pip
- Test suite
- Add python.exe to Path

Will be installed on local hard drive

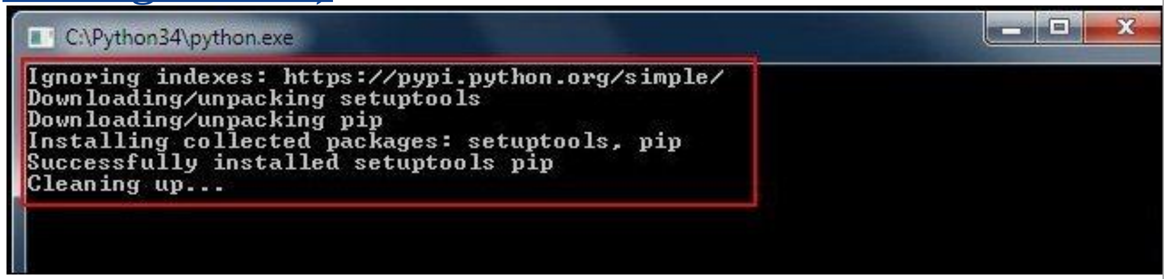
Entire feature will be installed on local h

Entire feature will be unavailable

Prepend C:\P variable. This command pr

This feature requires 0KB on your hard drive.

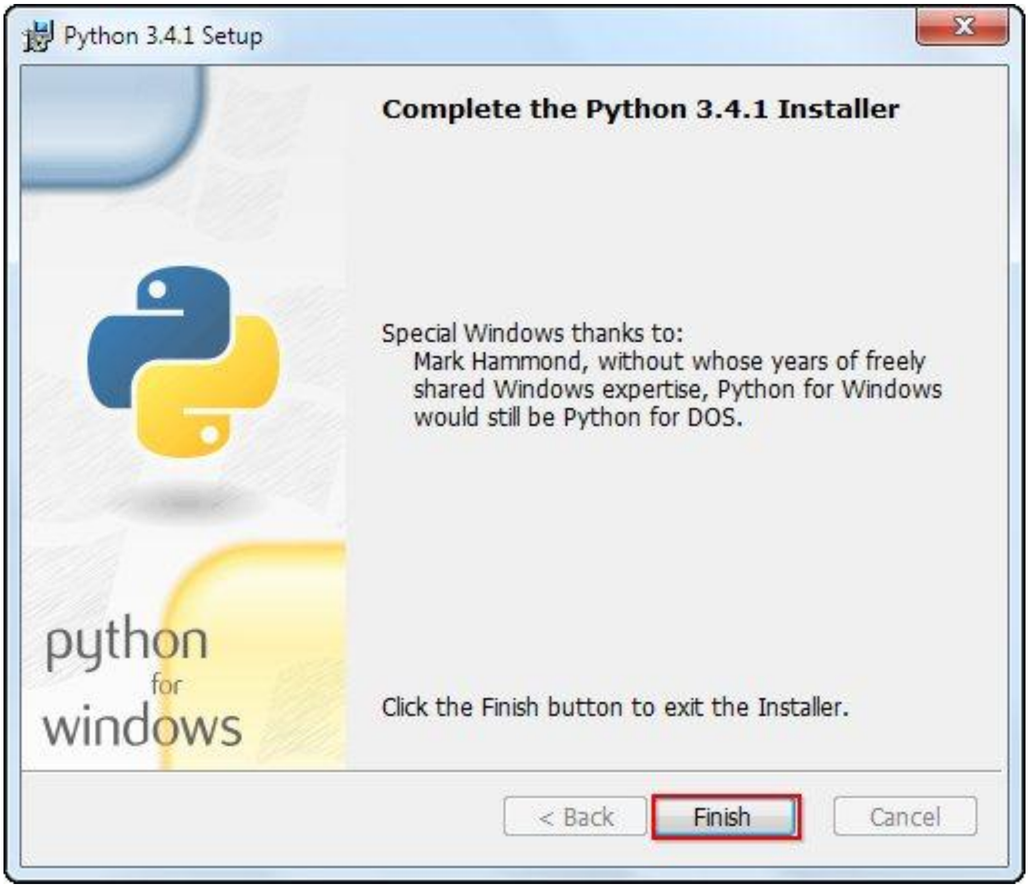
- You will notice that the installation will bring up a command prompt window while Python downloads and installs “Pip.” Pip is just a package management tool. This will allow you to install all the additional Python packages that are available for download through PyPI (Python Package Index).



C:\Python34\python.exe

```
Ignoring indexes: https://pypi.python.org/simple/
Downloading/unpacking setuptools
Downloading/unpacking pip
Installing collected packages: setuptools, pip
Successfully installed setuptools pip
Cleaning up...
```

- Now that you have completed the installation process, click on “Finish.”



Complete the Python 3.4.1 Installer

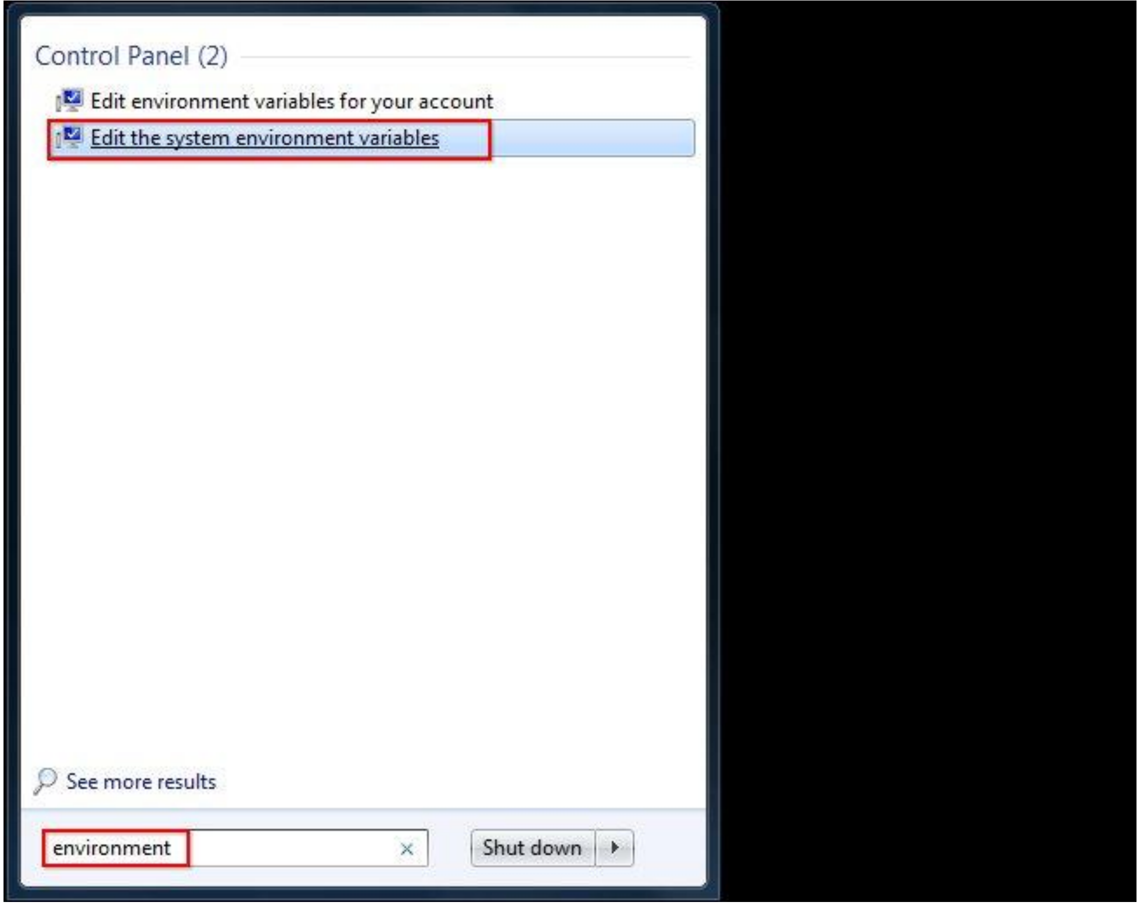
Special Windows thanks to:
Mark Hammond, without whose years of freely shared Windows expertise, Python for Windows would still be Python for DOS.

Click the Finish button to exit the Installer.

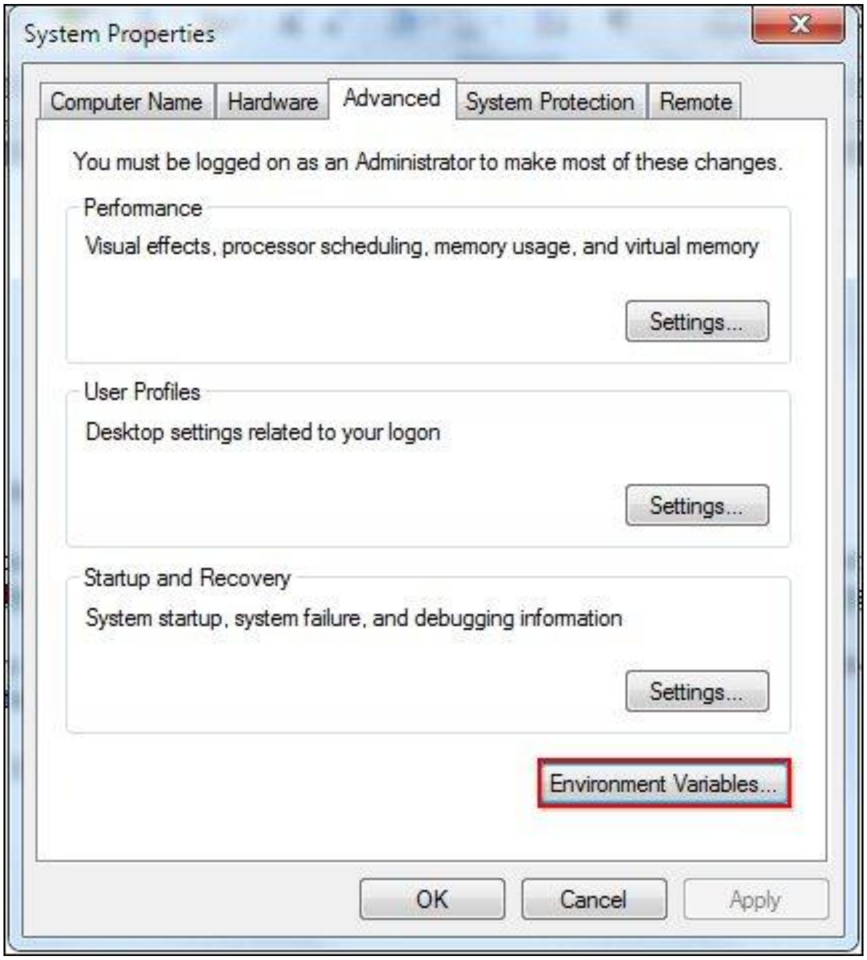
- **Adding Python to System Path Variable**
  If you decided to use the Python 3.4.1, you will not need to follow this process. You can simply skip ahead to the next section. The reason is that the new update integrates this process in the installation phase and so you no longer need to manually add the System Path Variable. If you want to add a second set of variables for Python, you can still follow the procedure but replace "27" with "34."
- If you chose to use the 2.7.3 version of Python, you will need to follow these steps. Once you have successfully installed Python, it is time to

add it to the System Path Variable. Doing this will allow Python to run scripts on your computer without any conflicts of problems.

- Begin by opening the start menu and typing in “environment” and select the option called “Edit the system environment variables.”


Control Panel (2)
Edit environment variables for your account
Edit the system environment variables
See more results
environment
Shut down

- When the “System Properties” window appears, click on “Environment Variables…”



You must be logged on as an Administrator to make most of these changes.

Performance

Visual effects, processor scheduling, memory usage, and virtual memory

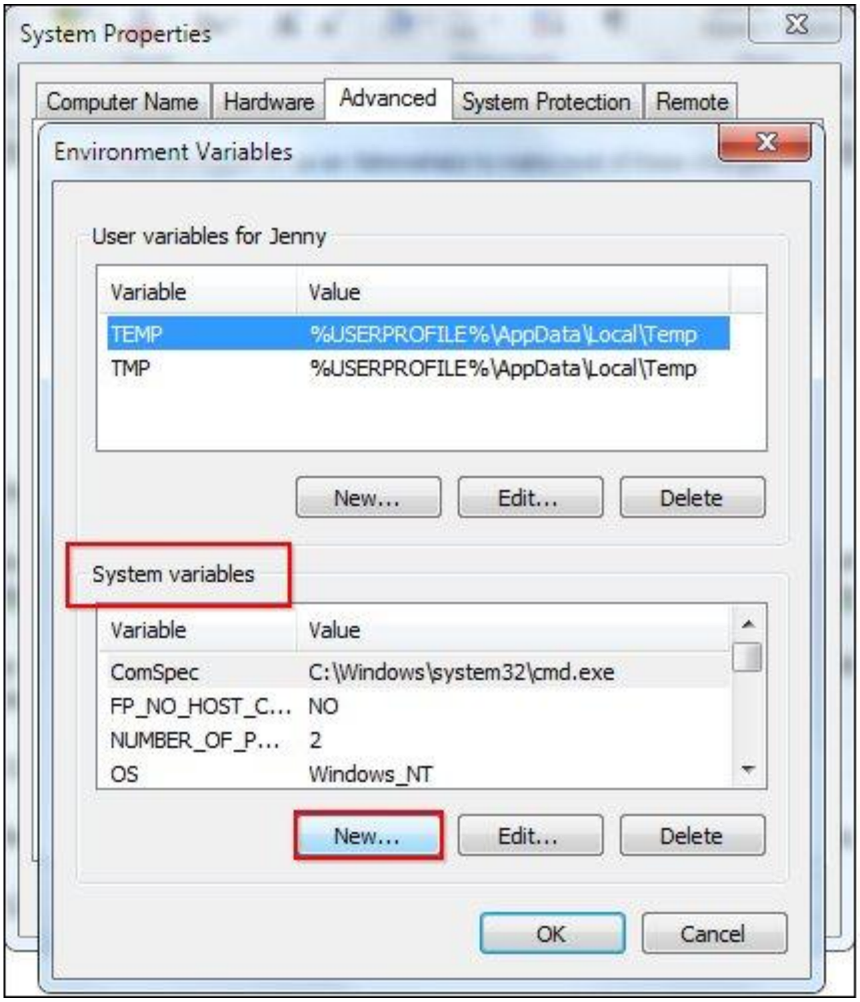
User Profiles

Desktop settings related to your logon

Startup and Recovery

System startup, system failure, and debugging information

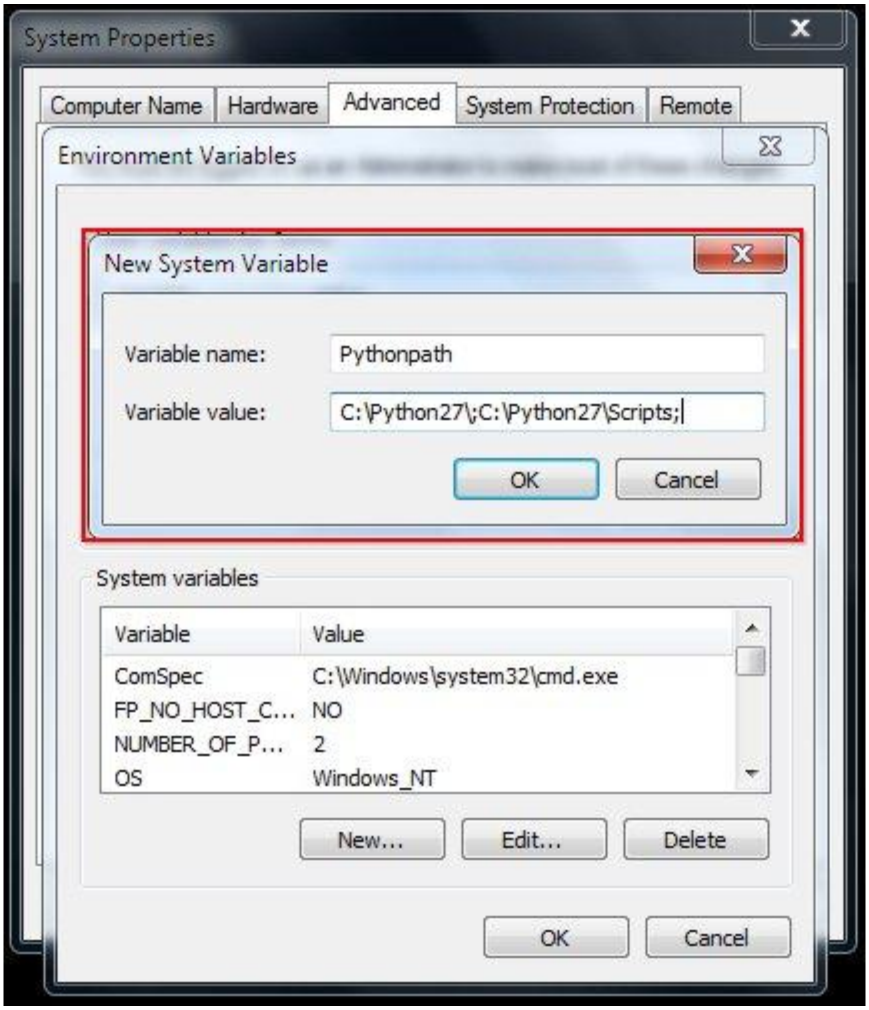
- Once you have the "Environment Variables" window open, direct your focus to the bottom half. You will notice that it controls all the "System Variables" rather than just this associated with your user. Click on "New…" to create a new variable for Python.



Variable	Value
TEMP	%USERPROFILE%\AppData\Local\Temp
TMP	%USERPROFILE%\AppData\Local\Temp

Variable	Value
ComSpec	C:\Windows\system32\cmd.exe
FP_NO_HOST_C...	NO
NUMBER_OF_P...	2
OS	Windows_NT

- Simply enter a name for your Path and the code shown below. For the purposes of this example we have installed Python 2.7.3, so we will call the path: “Pythonpath.”
- The string that you will need to enter is: “*C:\Python27\;C:\Python27\Scripts;*”

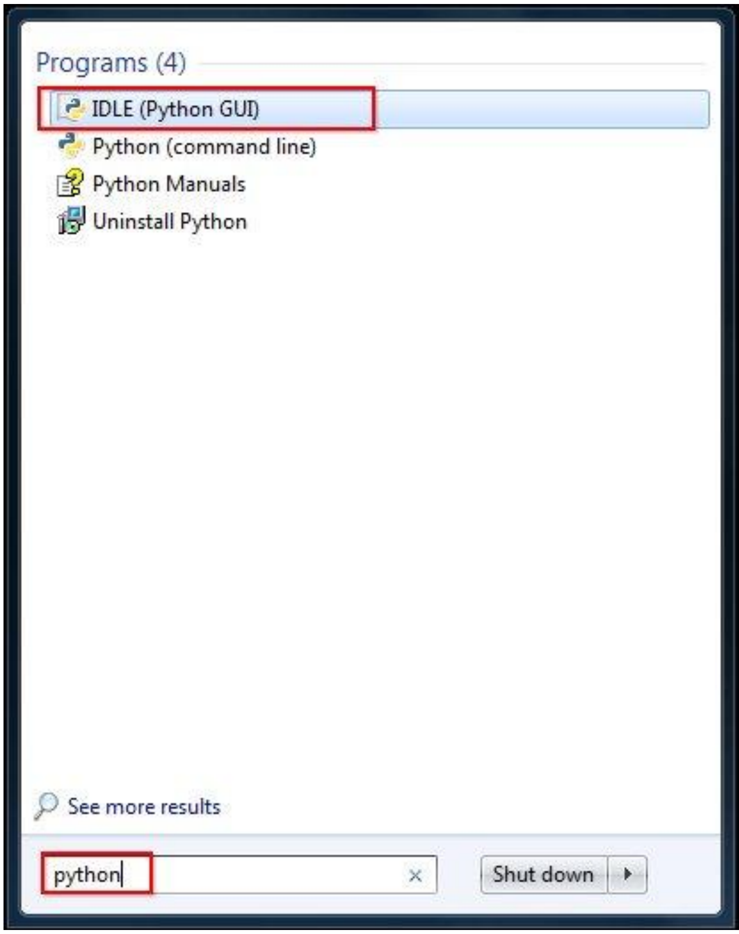


Variable name: Pythonpath

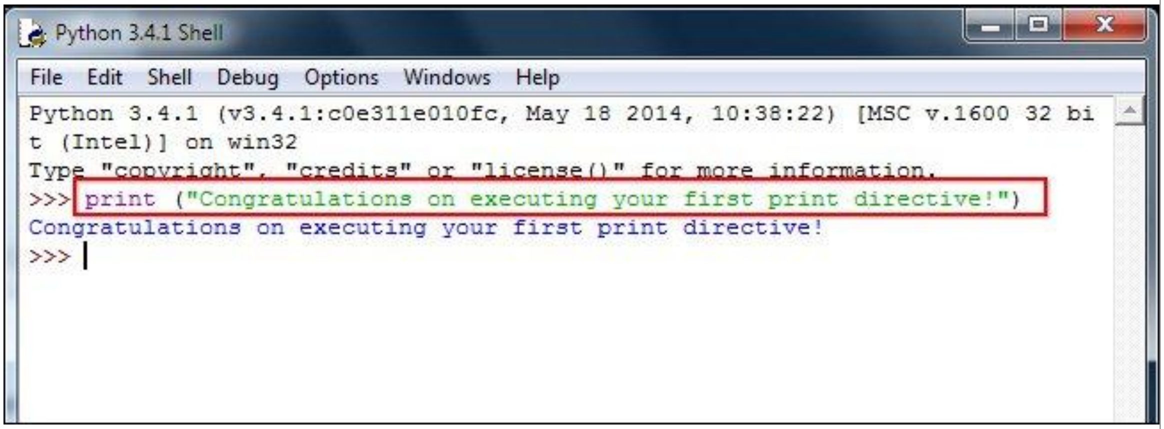
Variable value: C:\Python27\;C:\Python27\Scripts;

Variable	Value
ComSpec	C:\Windows\system32\cmd.exe
FP_NO_HOST_C...	NO
NUMBER_OF_P...	2
OS	Windows_NT

- Press “OK,” then “OK,” then “OK,” then the red “X” to accept all changes and exit the “System Properties” window.
- **Simple Print Directive**
  Now that we have successfully completed the installation process and added our “Environment Variable,” you are ready to create your first basic Python script. Let’s begin by opening Python’s GUI by pressing “Start” and typing “Python” and selecting the “IDLE (Python GUI).”

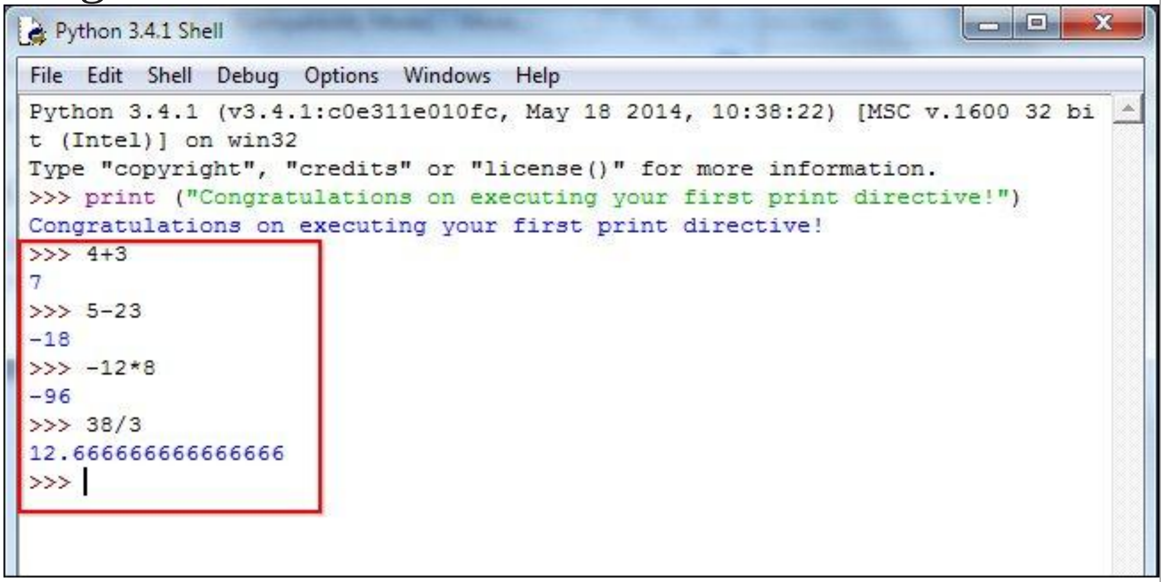


- Once the GUI is open, we will begin by using the simplest directive possible. This is the “print” directive which simply prints whatever you tell it to, into a new line. Start by typing a print directive like the one shown in the image below or copy and paste this text then press “Enter”: print (“Congratulations on executing your first print directive!”)



```
Python 3.4.1 (v3.4.1:c0e311e010fc, May 18 2014, 10:38:22) [MSC v.1600 32 bi
t (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> print ("Congratulations on executing your first print directive!")
Congratulations on executing your first print directive!
>>> 
```

- With Python 3, the interactive mode signaled by the presence of “>>>” means you can do things like simple math without any directives. Try doing a few simple problems as shown in the image below.



```
Python 3.4.1 (v3.4.1:c0e311e010fc, May 18 2014, 10:38:22) [MSC v.1600 32 bi
t (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> print ("Congratulations on executing your first print directive!")
Congratulations on executing your first print directive!
>>> 4+3
7
>>> 5-23
-18
>>> -12*8
-96
>>> 38/3
12.666666666666666
>>> 
```

How to use the program?

- Double click on Metro Trip Planner to open the application.

- Click on "Continue"

- Now you can either choose to check the train timings or you can click on Private Access to continue into editing the official information.

- On the main window you also have an option of saving your search if you are a frequent user of metro.

- You can also view the list of feeder buses available in your destination station.

- Private access option is for the use of officials of the metro for the purpose of changing certain details in the program if necessary.

Manual v/s Computer

In the present world, we can’t imagine to live without computers, such is our dependence on these electronic equipment’s. Over these years, they have truly evolved not just as an electrical equipment, but our life partners.

Regarding travel planner, a computer program is far more efficient. Not only does a travel planner program save a lot of time, but saves a lot of work in gathering information from different places, which can be really frustrating at times.

Thus, manual search of information is not only tough, but also is not so smartin the present world.

Thus, it is clearly evident that a computer travel planner management program is way more efficient.

System Requirements & Installation Manual

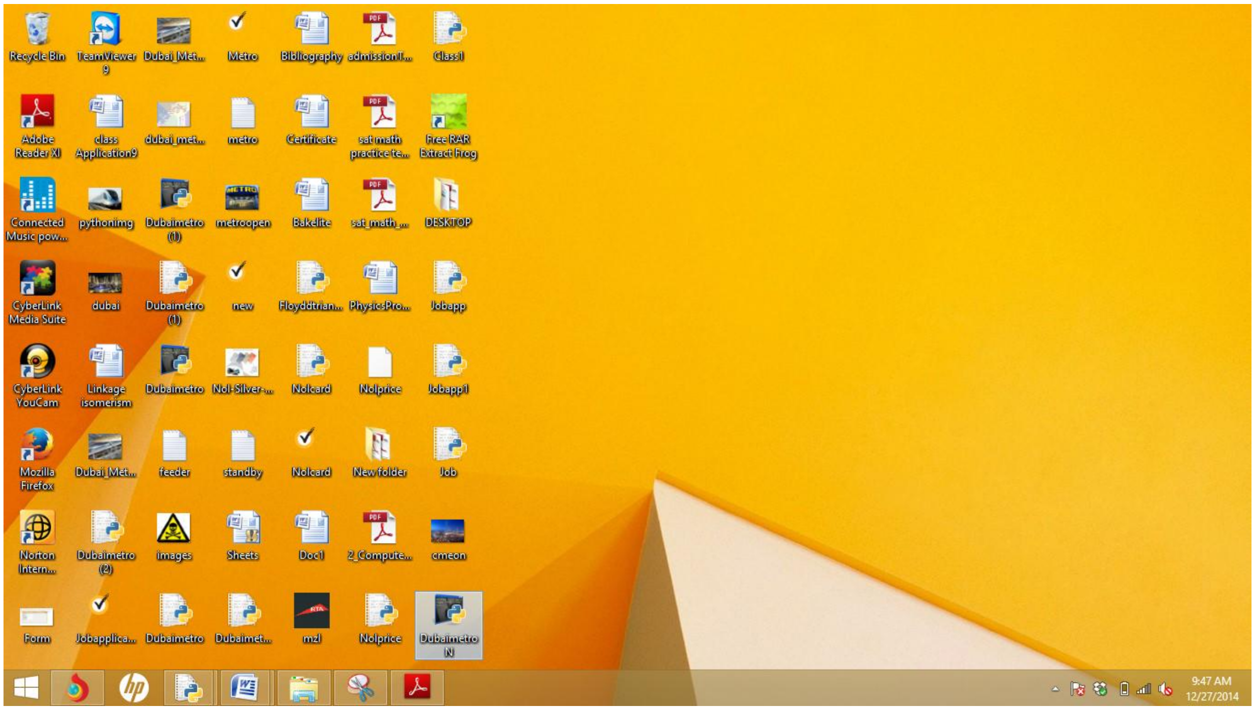
System Requirements:

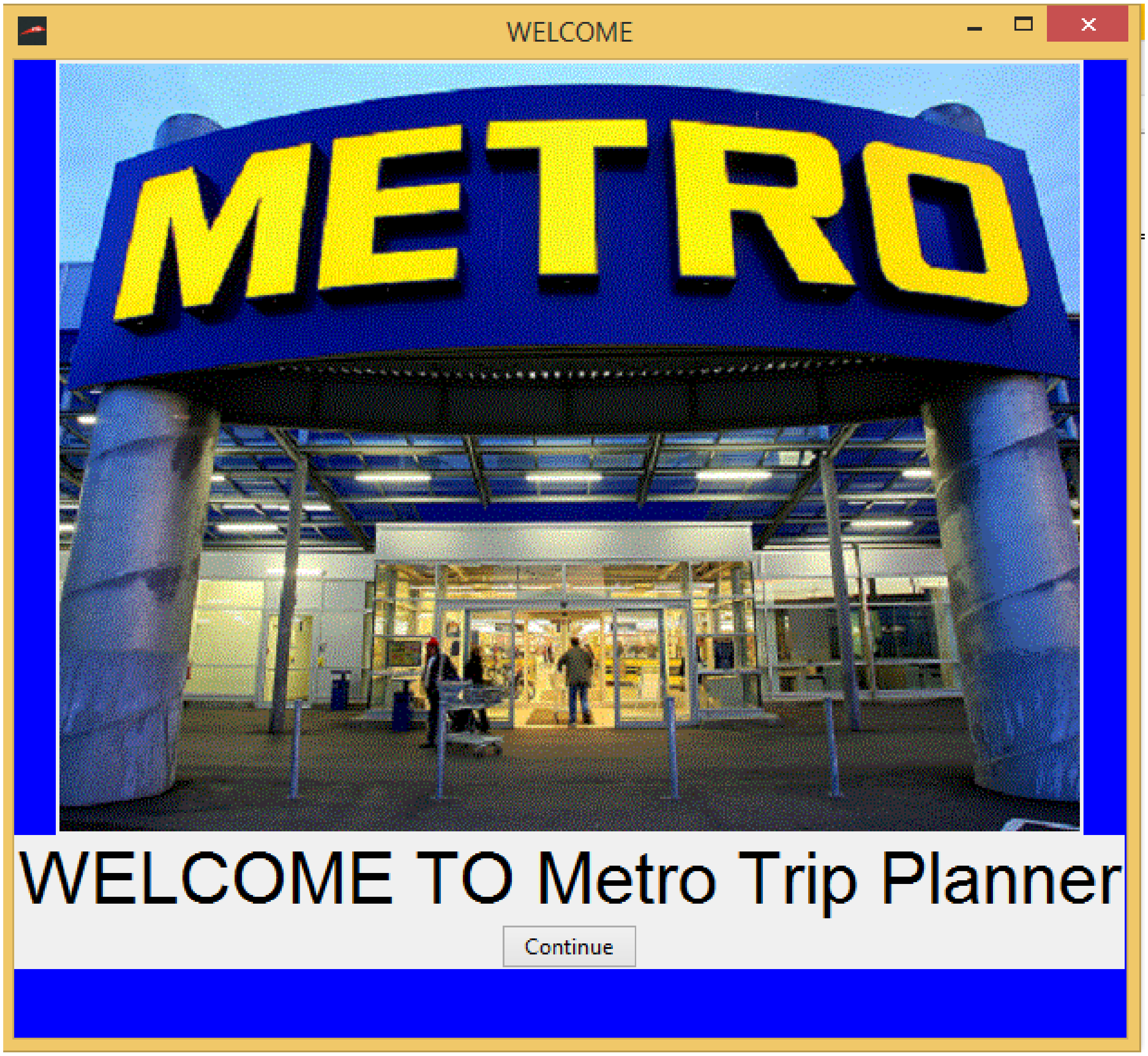
- Windows(XP or later)/Mac (OS X or later)/Linux/Unix.
- Intel 64(AMD64/X86-64 binary) or higher.
- 1.86 GHz or more.
- Minimum 10GB Hard Drive Size (Recommended 150GB).
- 1 GB free space on hard drive.
- 2 GB RAM
- Graphic Card(Memory Clock Rate – 900-5700 MHz & Bandwidth – 80-230GB/s)

Installation Manual:

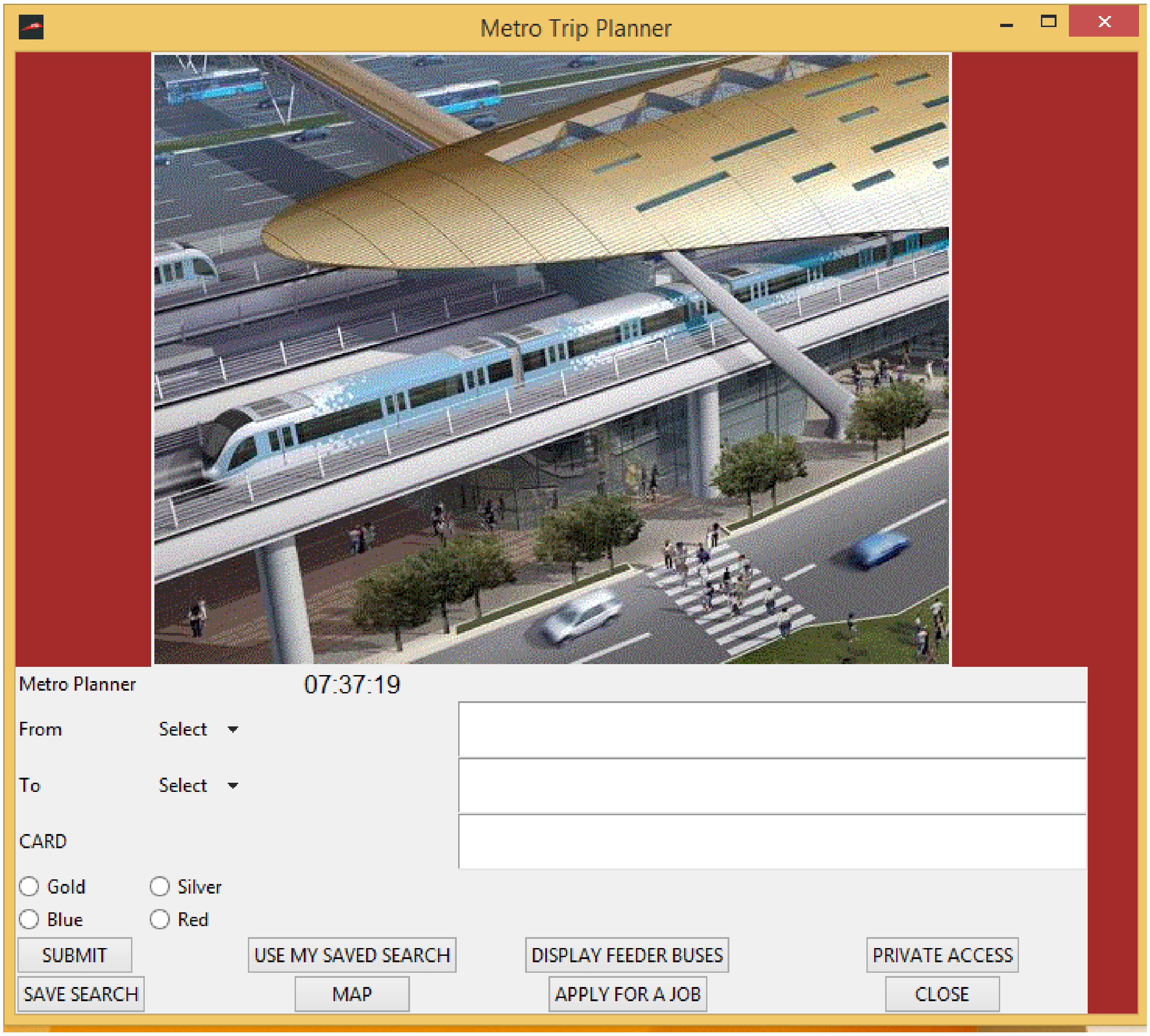
- ✓ Double click on the file (DubaiMetro) to start the program.

Screenshots





WELCOME TO Metro Trip Planner



Metro Trip Planner

Metro Planner 07:37:19

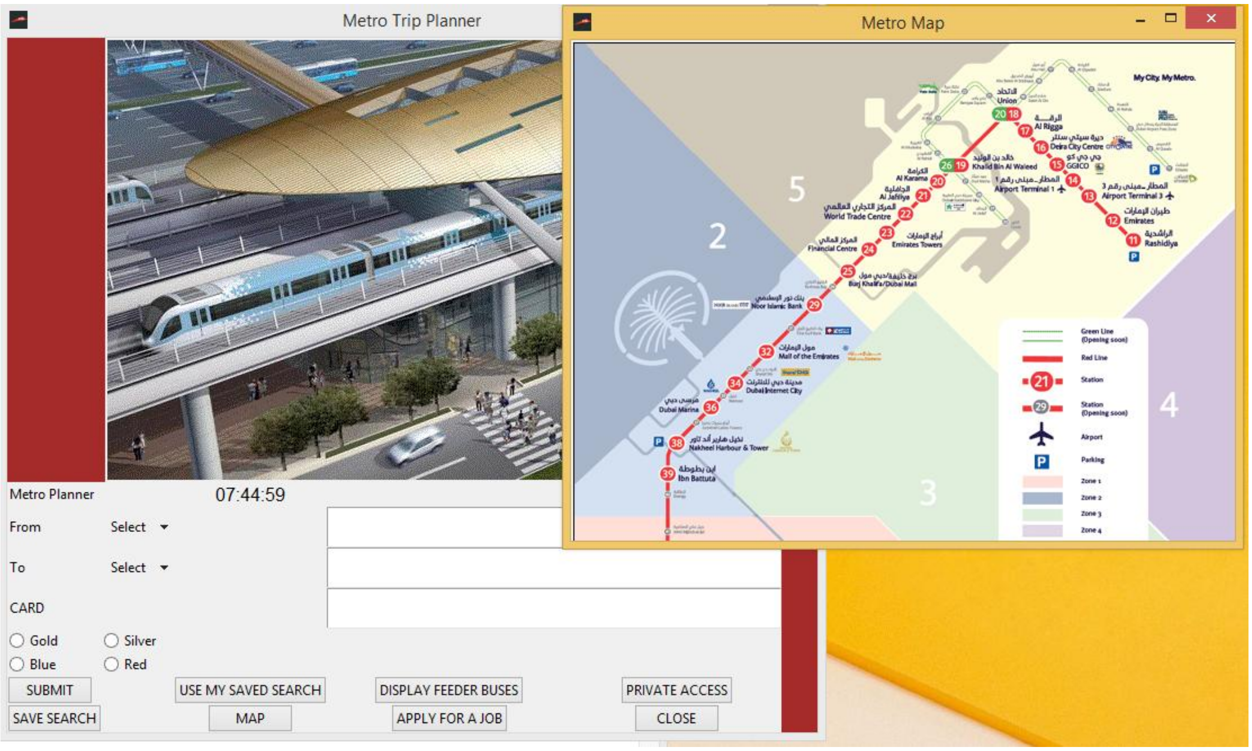
From Select ▾

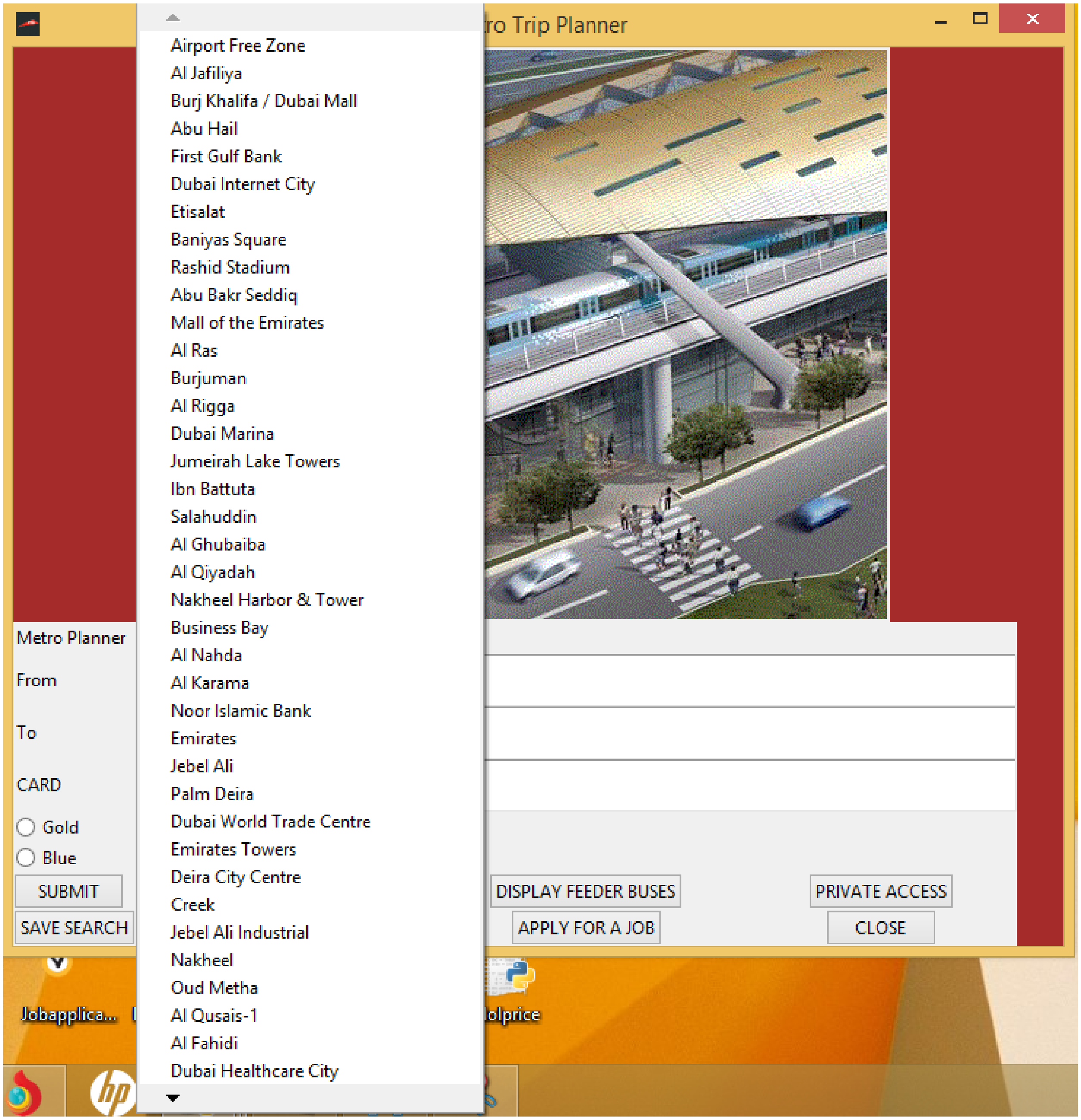
To Select ▾

CARD

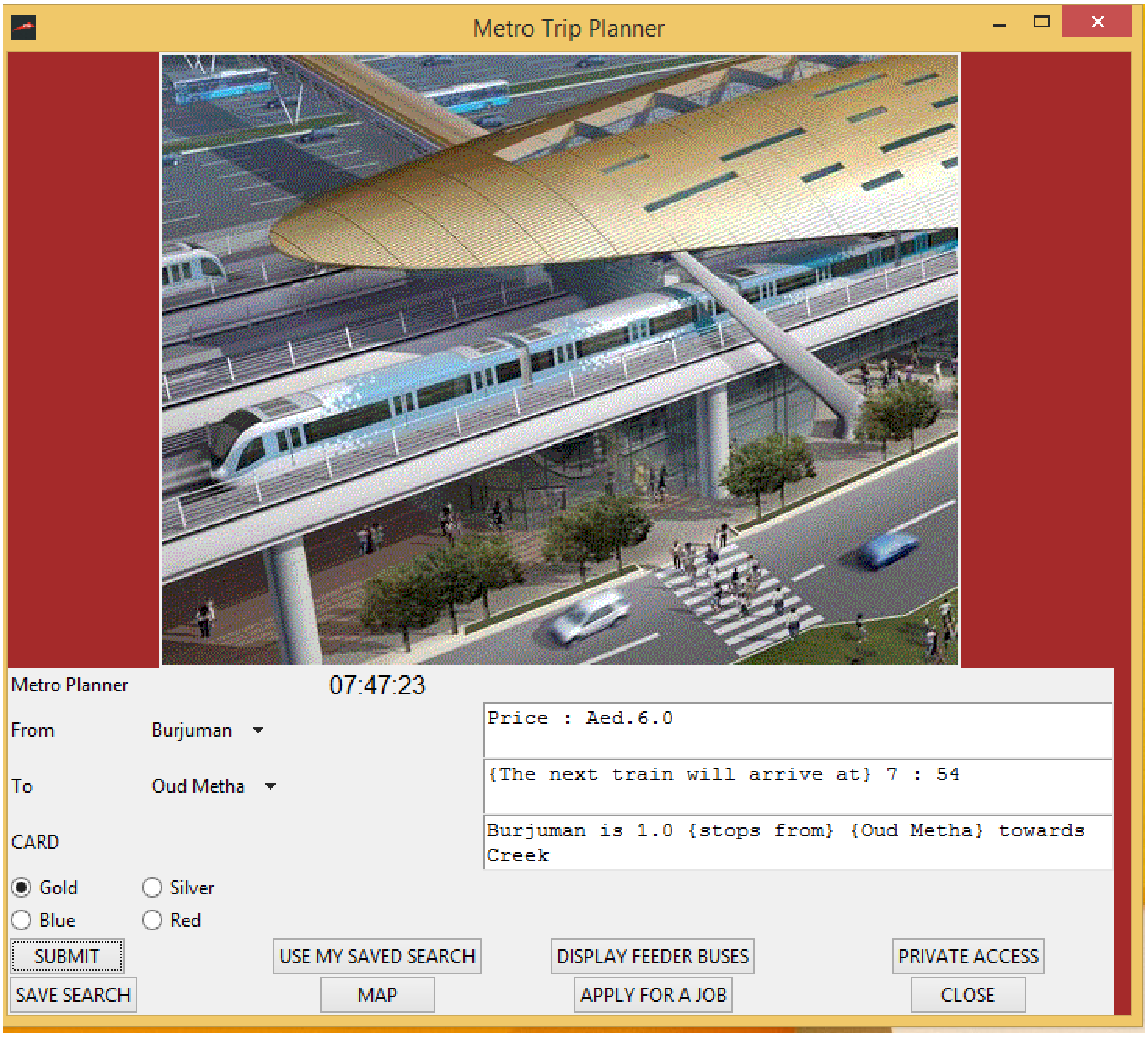
○ Gold ○ Silver

○ Blue ○ Red


Metro Trip Planner
Metro Map
Metro Planner
07:44:59
From
Select
To
Select
CARD
○ Gold
○ Silver
○ Blue
○ Red
SUBMIT
USE MY SAVED SEARCH
DISPLAY FEEDER BUSES
PRIVATE ACCESS
SAVE SEARCH
MAP
APPLY FOR A JOB
CLOSE
My City. My Metro.
5
2
3
4
Union
Al Rigga
Deira City Centre
GGICO
Khalid Bin Al Waleed
Al Karama
Al Jafiliya
Airport Terminal 1
Airport Terminal 3
Emirates
Rashidiya
World Trade Centre
Financial Centre
Emirates Towers
Burj Khalifa/Dubai Mall
Noor Islamic Bank
Mall of the Emirates
Dubai Internet City
Dubai Marina
Nakheel Harbour & Tower
Ibn Battuta
Green Line (Opening soon)
Red Line
Station
Station (Opening soon)
Airport
Parking
Zone 1
Zone 2
Zone 3
Zone 4



Airport Free Zone
Al Jafiliya
Burj Khalifa / Dubai Mall
Abu Hail
First Gulf Bank
Dubai Internet City
Etisalat
Baniyas Square
Rashid Stadium
Abu Bakr Seddiq
Mall of the Emirates
Al Ras
Burjuman
Al Rigga
Dubai Marina
Jumeirah Lake Towers
Ibn Battuta
Salahuddin
Al Ghubaiba
Al Qiyadah
Nakheel Harbor & Tower
Business Bay
Al Nahda
Al Karama
Noor Islamic Bank
Emirates
Jebel Ali
Palm Deira
Dubai World Trade Centre
Emirates Towers
Deira City Centre
Creek
Jebel Ali Industrial
Nakheel
Oud Metha
Al Qusais-1
Al Fahidi
Dubai Healthcare City



Metro Trip Planner

Metro Planner 07:47:23

From Burjuman

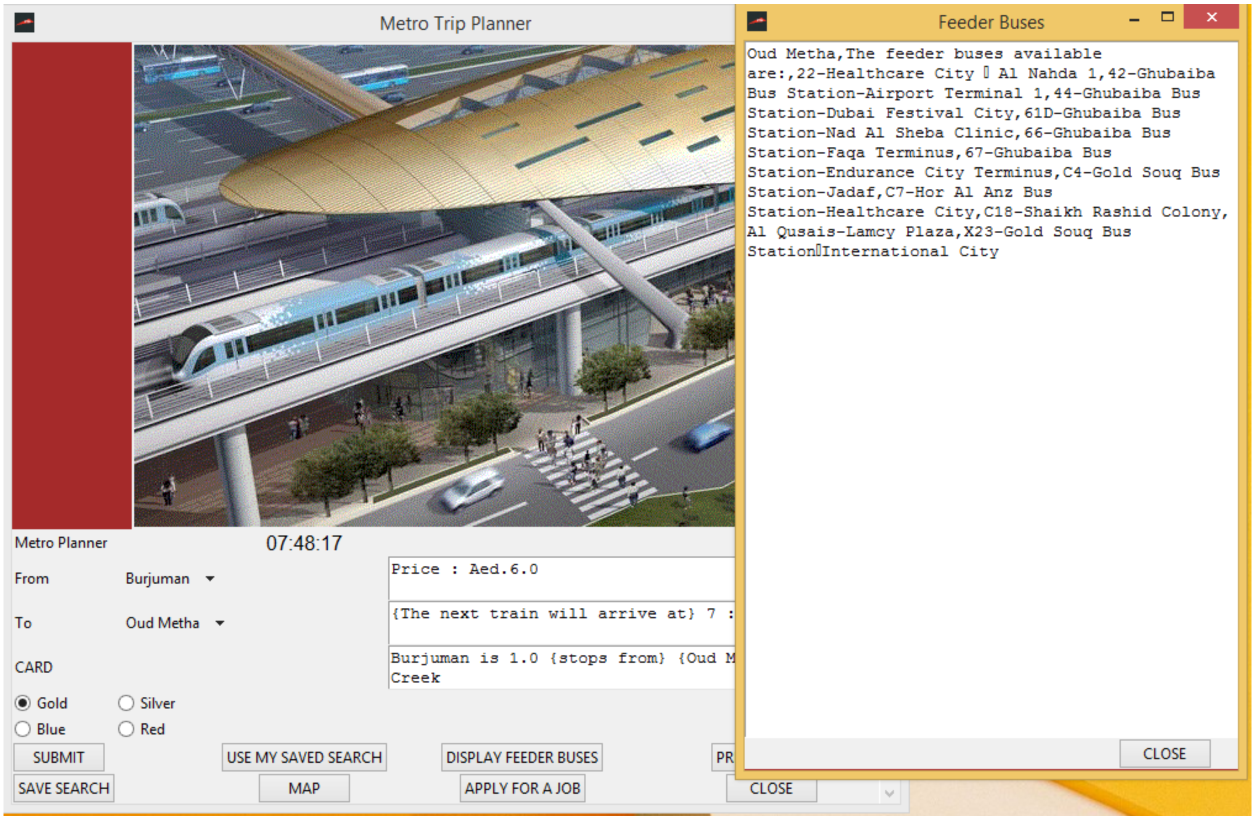
To Oud Metha

CARD

● Gold ○ Silver

○ Blue ○ Red

```
Price : Aed.6.0
{The next train will arrive at} 7 : 54
Burjuman is 1.0 {stops from} {Oud Metha} towards
Creek
```



07:48:17

From Burjuman

To Oud Metha

CARD

● Gold ○ Silver

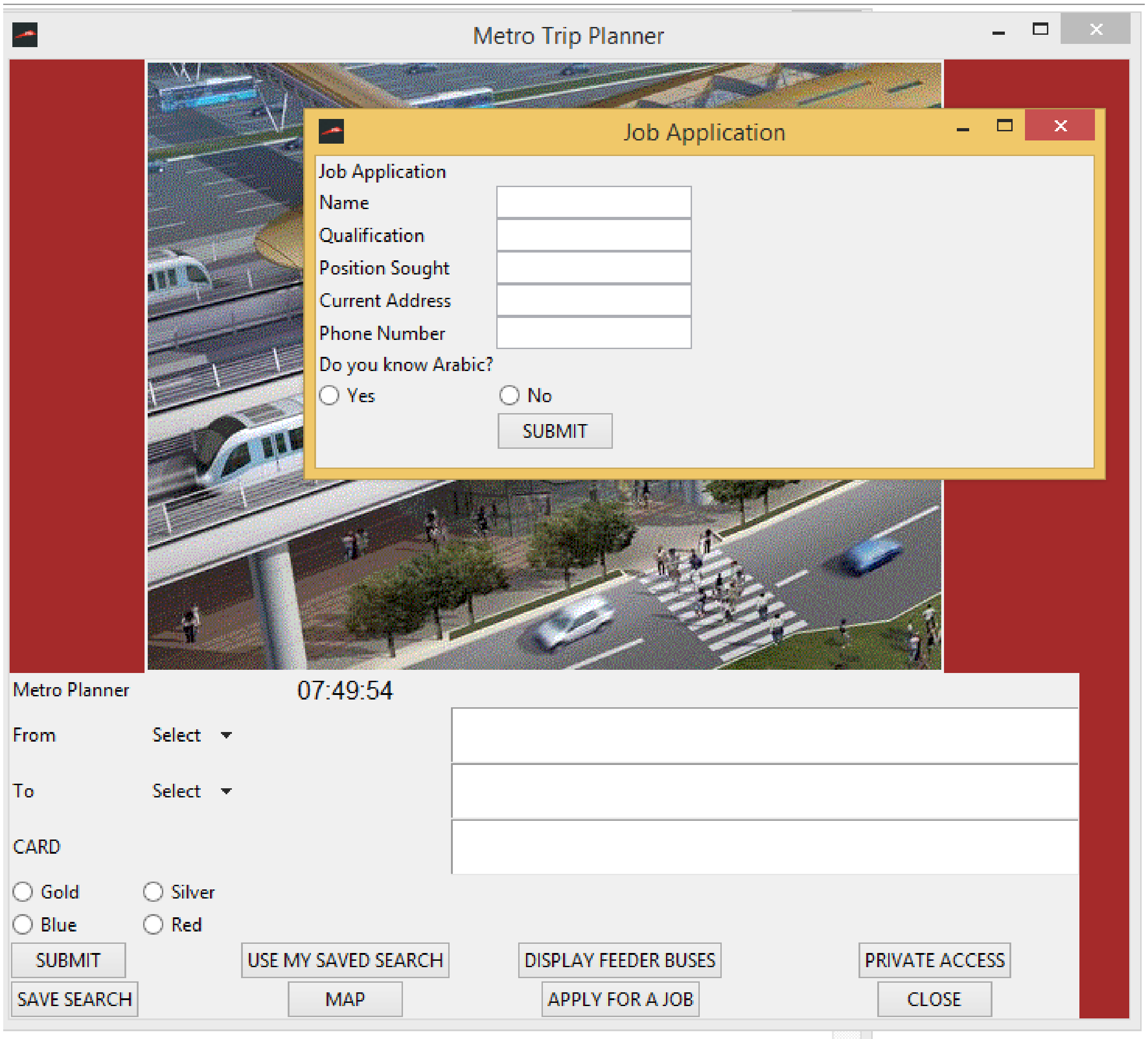
○ Blue ○ Red

```
Price : Aed.6.0
```

```
{The next train will arrive at} 7 :
```

```
Burjuman is 1.0 {stops from} {Oud M
Creek
```

```
Oud Metha,The feeder buses available
are:,22-Healthcare City ▯ Al Nahda 1,42-Ghubaiba
Bus Station-Airport Terminal 1,44-Ghubaiba Bus
Station-Dubai Festival City,61D-Ghubaiba Bus
Station-Nad Al Sheba Clinic,66-Ghubaiba Bus
Station-Faqa Terminus,67-Ghubaiba Bus
Station-Endurance City Terminus,C4-Gold Souq Bus
Station-Jadaf,C7-Hor Al Anz Bus
Station-Healthcare City,C18-Shaikh Rashid Colony,
Al Qusais-Lamcy Plaza,X23-Gold Souq Bus
Station▯International City
```



Metro Trip Planner

Job Application

Job Application

Name

Qualification

Position Sought

Current Address

Phone Number

Do you know Arabic?

○ Yes ○ No

Metro Planner 07:49:54

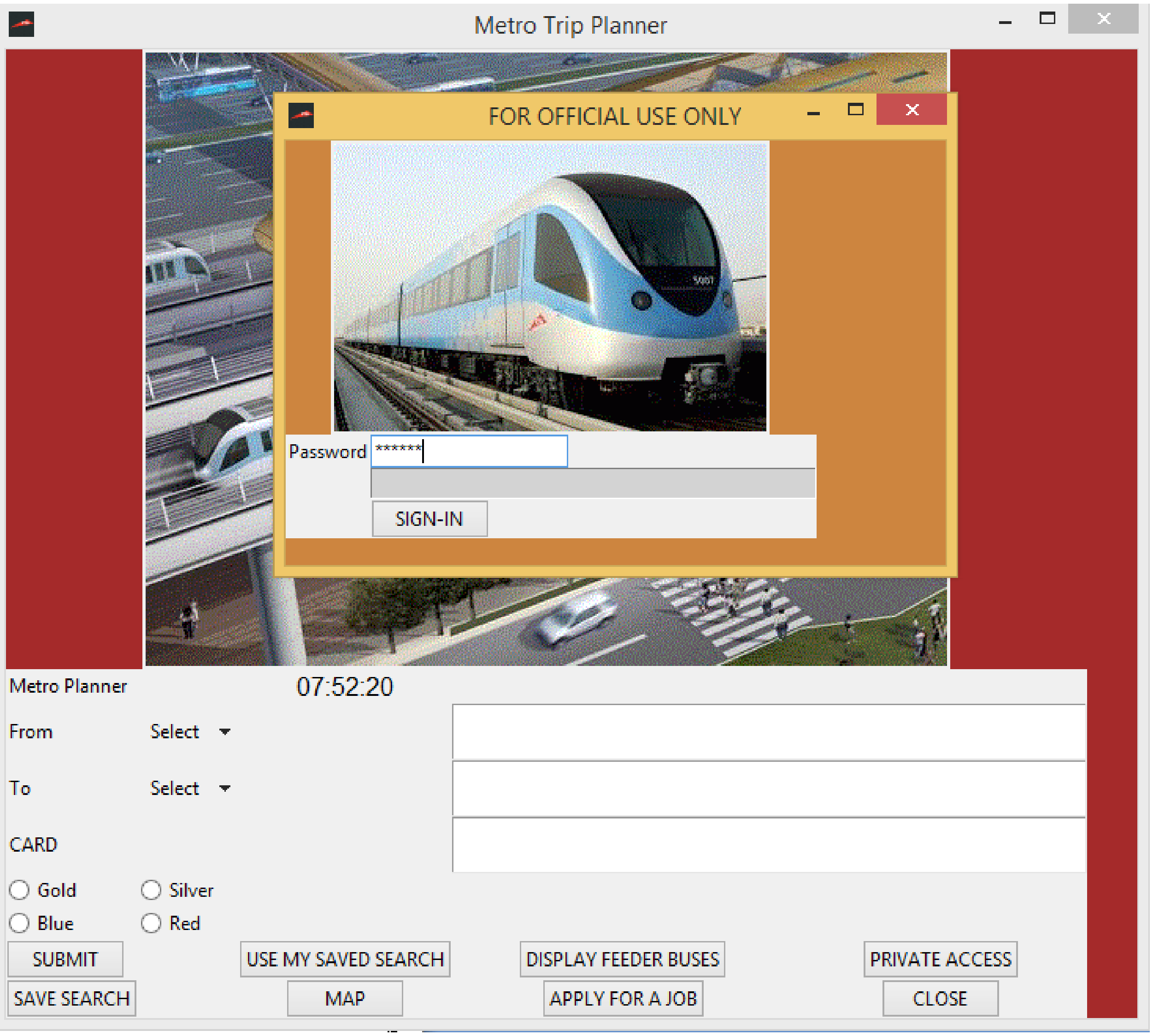
From Select

To Select

CARD

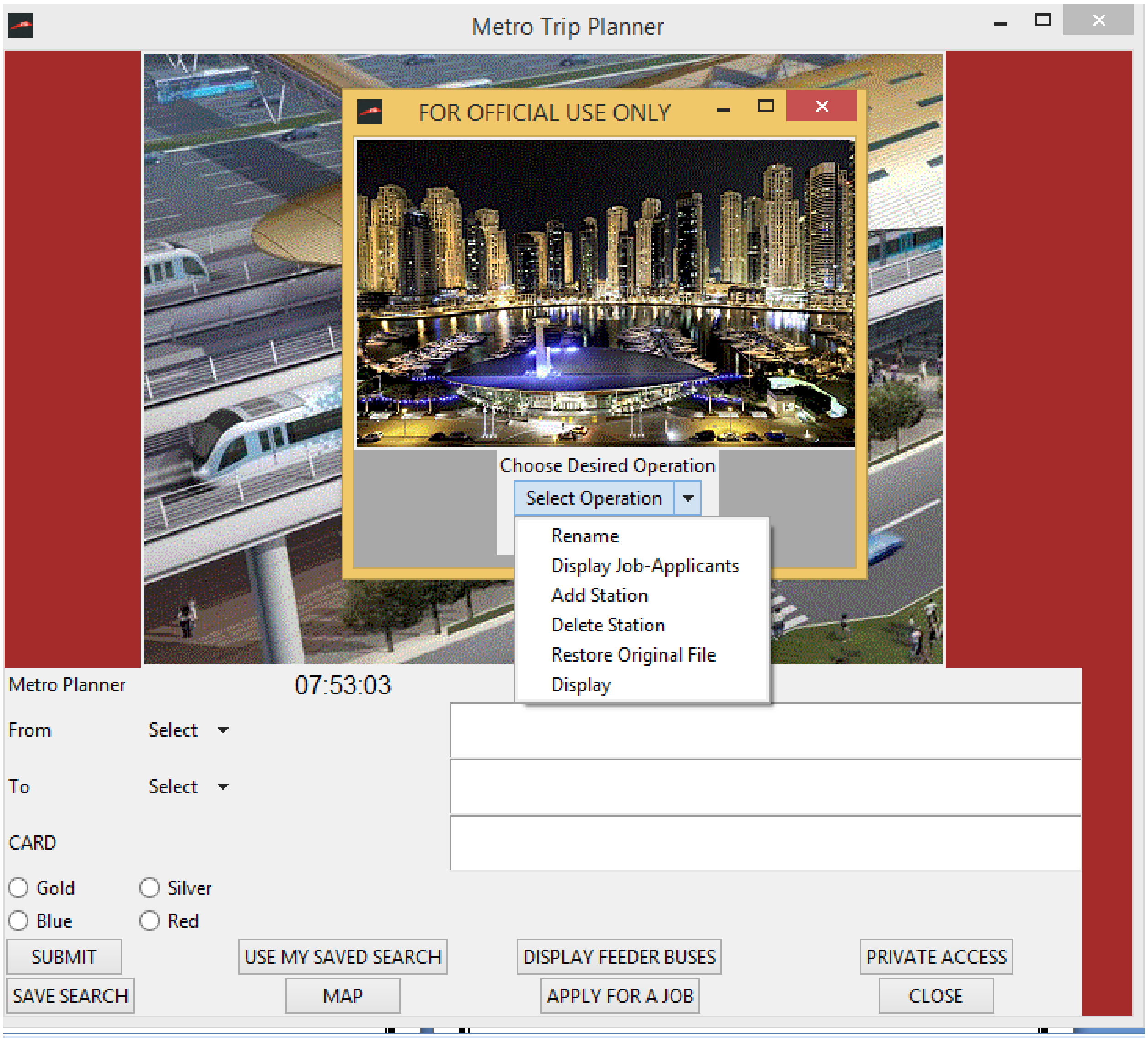
○ Gold ○ Silver

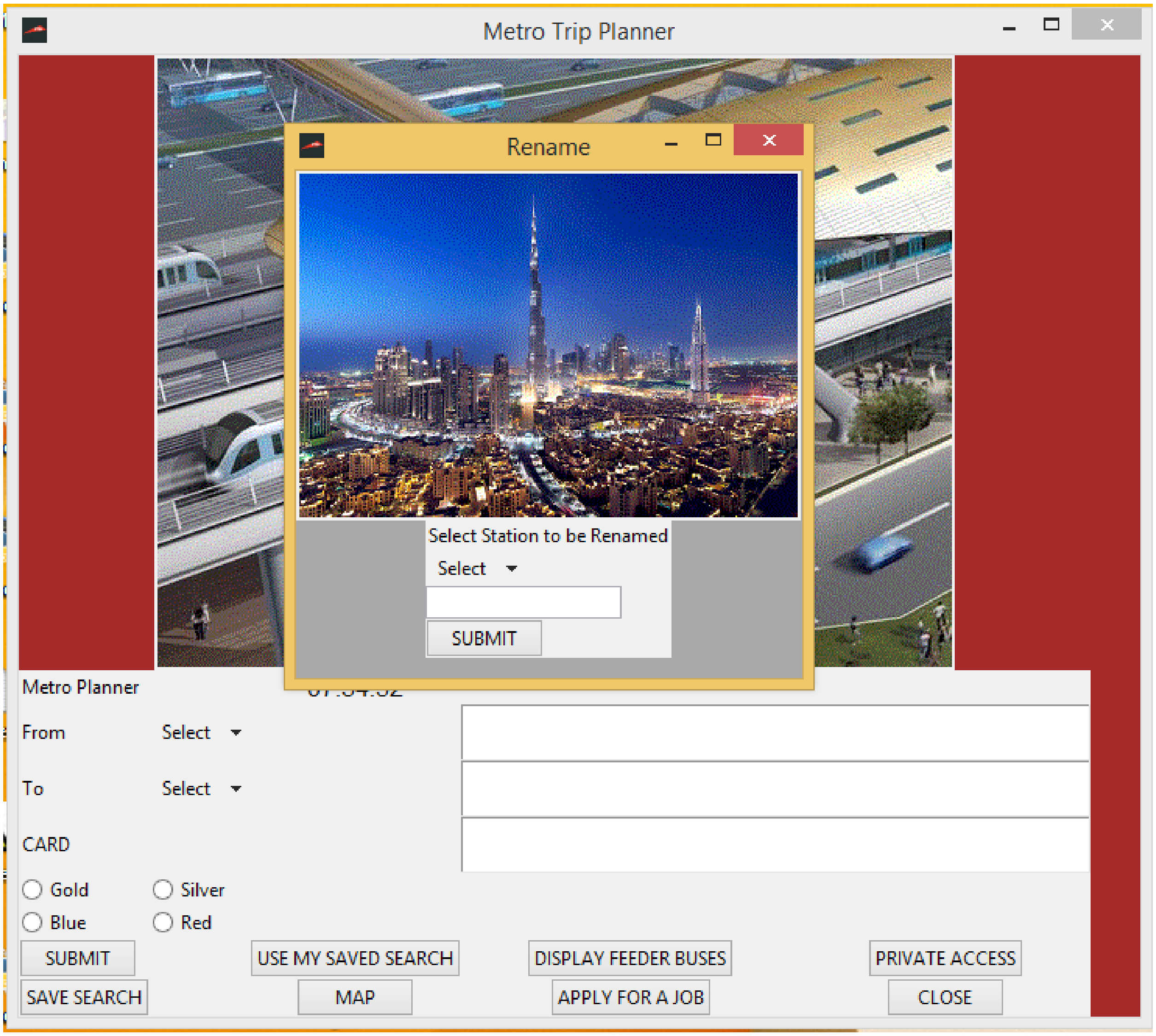
○ Blue ○ Red

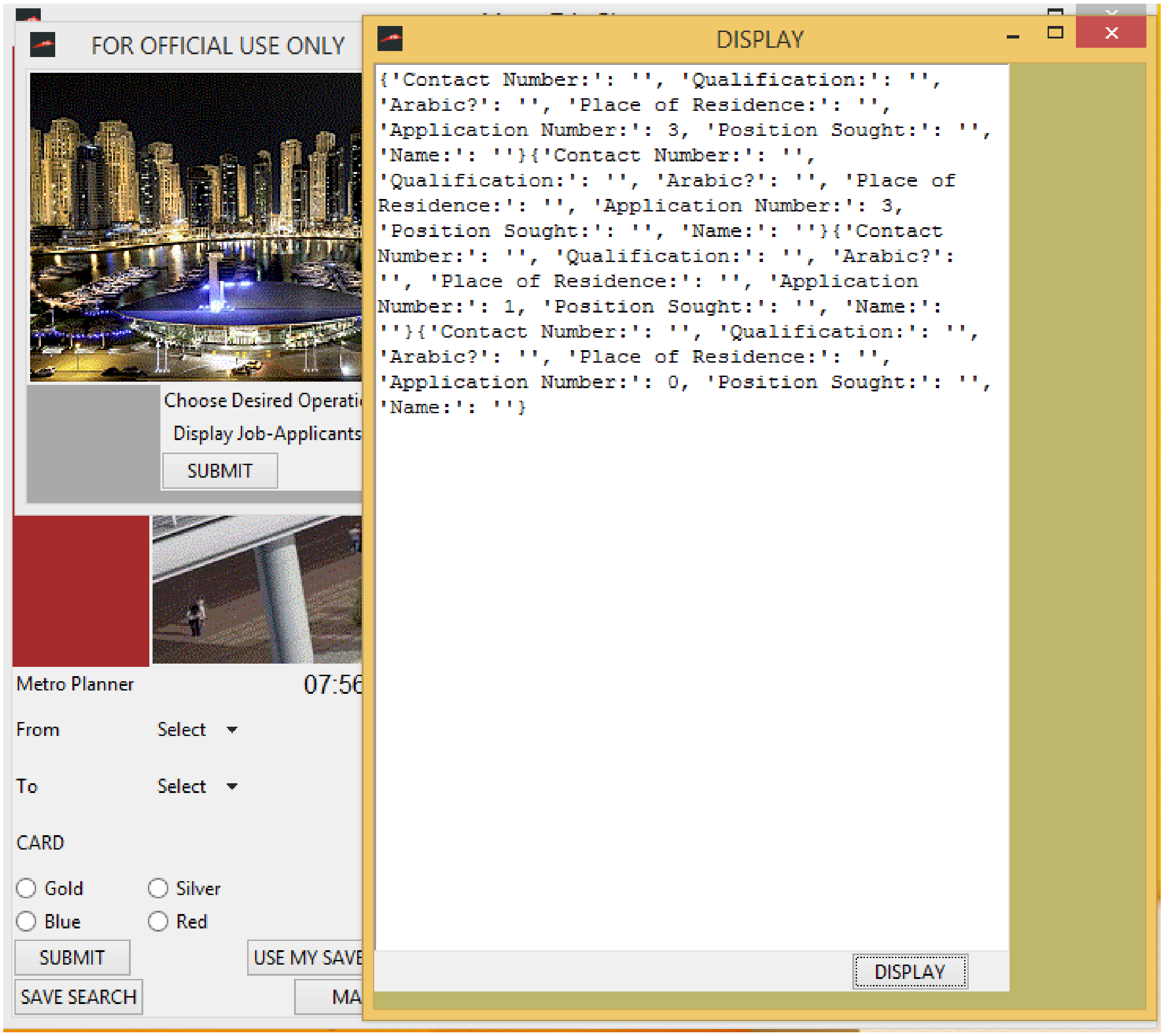


Password ******

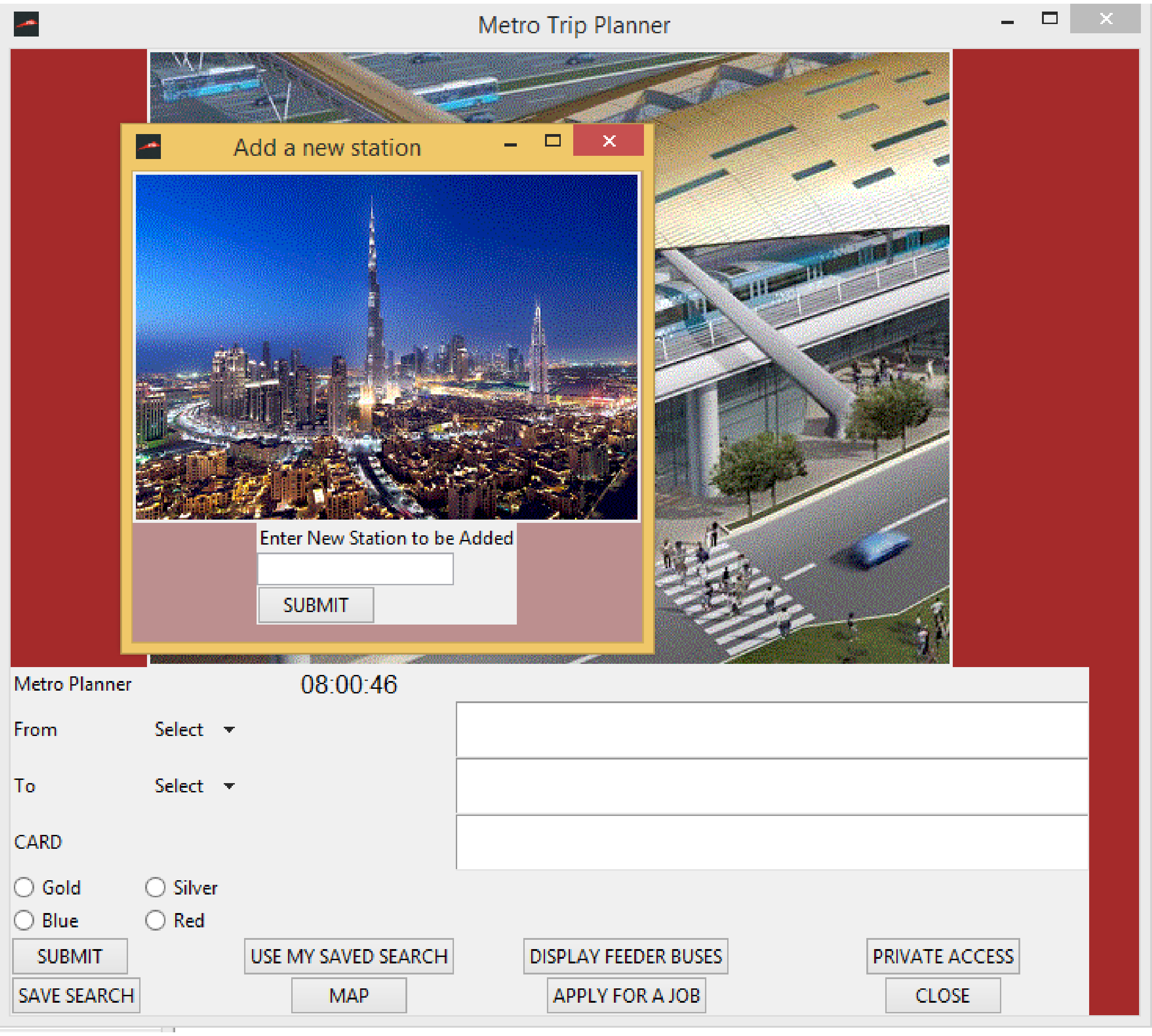
07:52:20


Metro Trip Planner
FOR OFFICIAL USE ONLY
Choose Desired Operation
Select Operation
Rename
Display Job-Applicants
Add Station
Delete Station
Restore Original File
Display
Metro Planner
07:53:03
From
Select
To
Select
CARD
○ Gold
○ Silver
○ Blue
○ Red
SUBMIT
USE MY SAVED SEARCH
DISPLAY FEEDER BUSES
PRIVATE ACCESS
SAVE SEARCH
MAP
APPLY FOR A JOB
CLOSE

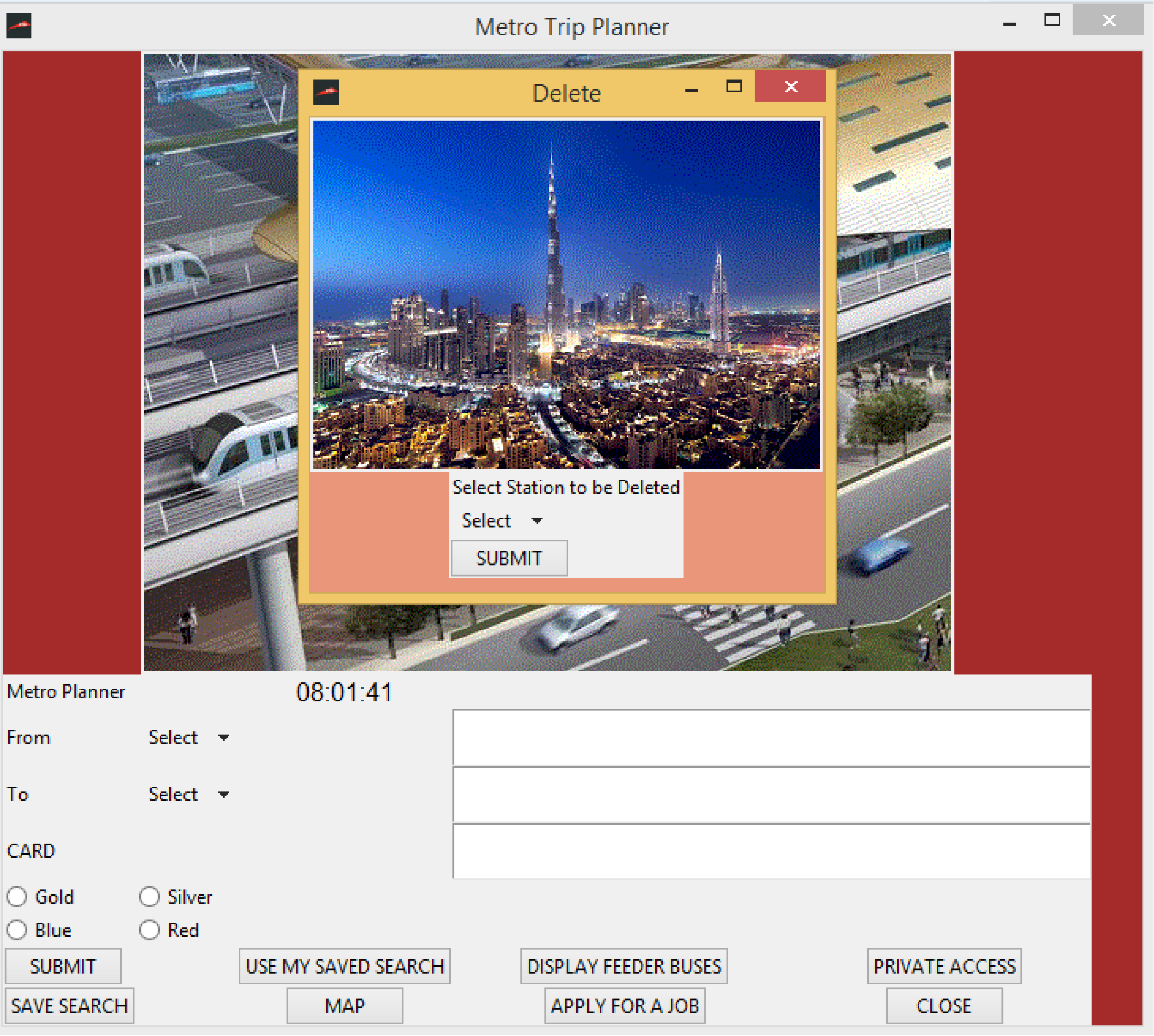

Metro Trip Planner
Rename
Select Station to be Renamed
Select
SUBMIT
Metro Planner
From
Select
To
Select
CARD
○ Gold
○ Silver
○ Blue
○ Red
SUBMIT
USE MY SAVED SEARCH
DISPLAY FEEDER BUSES
PRIVATE ACCESS
SAVE SEARCH
MAP
APPLY FOR A JOB
CLOSE

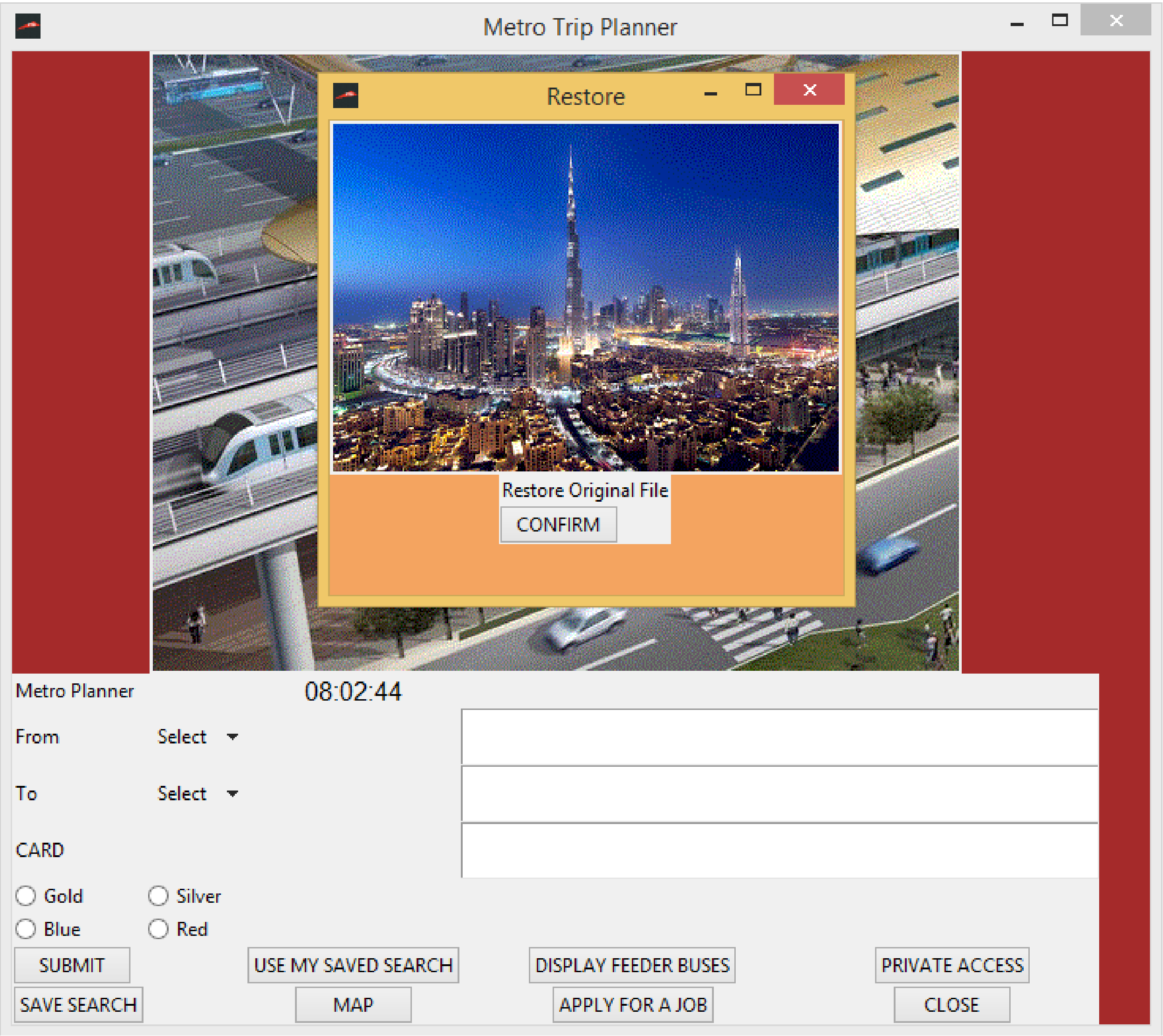


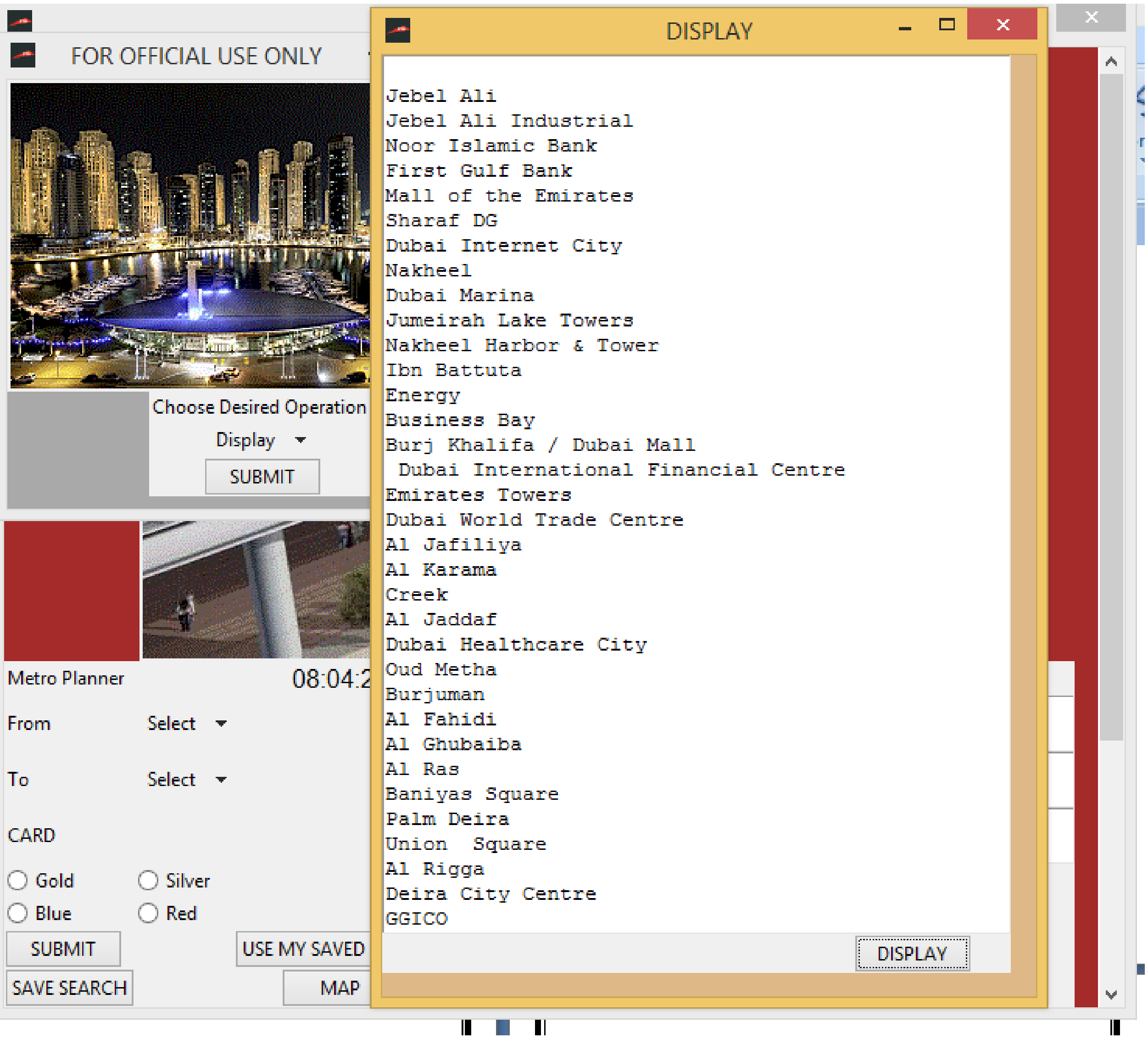
```
{'Contact Number:': '', 'Qualification:': '',
'Arabic?': '', 'Place of Residence:': '',
'Application Number:': 3, 'Position Sought:': '',
'Name:': ''}{'Contact Number:': '',
'Qualification:': '', 'Arabic?': '', 'Place of
Residence:': '', 'Application Number:': 3,
'Position Sought:': '', 'Name:': ''}{'Contact
Number:': '', 'Qualification:': '', 'Arabic?':
'', 'Place of Residence:': '', 'Application
Number:': 1, 'Position Sought:': '', 'Name:':
''}{'Contact Number:': '', 'Qualification:': '',
'Arabic?': '', 'Place of Residence:': '',
'Application Number:': 0, 'Position Sought:': '',
'Name:': ''}
```



Metro Trip Planner
Add a new station
Enter New Station to be Added
SUBMIT
Metro Planner
08:00:46
From
Select
To
Select
CARD
○ Gold
○ Silver
○ Blue
○ Red
SUBMIT
USE MY SAVED SEARCH
DISPLAY FEEDER BUSES
PRIVATE ACCESS
SAVE SEARCH
MAP
APPLY FOR A JOB
CLOSE


Metro Trip Planner
Delete
Select Station to be Deleted
Select
SUBMIT
Metro Planner
08:01:41
From
Select
To
Select
CARD
○ Gold
○ Silver
○ Blue
○ Red
SUBMIT
USE MY SAVED SEARCH
DISPLAY FEEDER BUSES
PRIVATE ACCESS
SAVE SEARCH
MAP
APPLY FOR A JOB
CLOSE


Metro Trip Planner
Restore
Restore Original File
CONFIRM
Metro Planner
08:02:44
From
Select
To
Select
CARD
○ Gold
○ Silver
○ Blue
○ Red
SUBMIT
USE MY SAVED SEARCH
DISPLAY FEEDER BUSES
PRIVATE ACCESS
SAVE SEARCH
MAP
APPLY FOR A JOB
CLOSE



```
Jebel Ali
Jebel Ali Industrial
Noor Islamic Bank
First Gulf Bank
Mall of the Emirates
Sharaf DG
Dubai Internet City
Nakheel
Dubai Marina
Jumeirah Lake Towers
Nakheel Harbor & Tower
Ibn Battuta
Energy
Business Bay
Burj Khalifa / Dubai Mall
 Dubai International Financial Centre
Emirates Towers
Dubai World Trade Centre
Al Jafiliya
Al Karama
Creek
Al Jaddaf
Dubai Healthcare City
Oud Metha
Burjuman
Al Fahidi
Al Ghubaiba
Al Ras
Baniyas Square
Palm Deira
Union  Square
Al Rigga
Deira City Centre
GGICO
```

Technical Documentation

Source Code

```
import os

import pickle

import random


from Tkinter import *

import Tkinter as ttk

from ttk import *

from math import *

import datetime

time=datetime.datetime.now()

import time

the_time=''
```

```
class Applicationmain(Frame):

        def __init__(self,master):
                Frame.__init__(self,master)
                self.grid()
                self.create_widgets()
        def create_widgets(self):

self.welcome=Label(self,text="WELCOME TO Metro Trip Planner",font=('bold',30))

self.welcome.grid(row=0,column=0,columnspan=2,sticky=W)

self.submit_button=Button(self,text="Continue",command=self.mainprog)

self.submit_button.grid(row=4,column=1,sticky=W)
```

```
            def mainprog(self):

                rootmain.destroy()
                class Application(Frame):
                    def __init__(self,master):
                        Frame.__init__(self,master)
                        self.grid()
                        self.create_widgets()
                    def create_widgets(self):

self.instruction=Label(self,text="Metro Planner")

self.instruction.grid(row=0,column=0,columnspan=2,sticky=W)

self.ins2=Label(self,text="From")
self.ins2.grid(row=1,column=0,columnspan=1,sticky=
W)
                    liststations={"Jebel Ali","Jebel
Ali Industrial","Noor Islamic Bank","First Gulf
Bank",
                                   "Mall of the
Emirates","Sharaf DG","Dubai Internet
City","Nakheel","Dubai Marina","Jumeirah Lake
Towers",
                                   "Nakheel
Harbor & Tower","Ibn Battuta","Energy","Business
Bay",
                                   "Burj Khalifa /
Dubai Mall"," Dubai International Financial Centre
","Emirates Towers","Dubai World Trade Centre
","Al Jafiliya","Al Karama",
                                   "Creek","Al
Jaddaf","Dubai Healthcare City","Oud
Metha","Burjuman","Al Fahidi","Al Ghubaiba","Al
Ras",
                                          "Baniyas
Square","Palm Deira","Union  Square","Al
Rigga","Deira City Centre","GGICO","Airport
Terminal-1","Airport Terminal-3",

"Emirates","Rashidiya ","Salahuddin","Abu Bakr
Seddiq","Abu Hail",
                                          "Al
Qiyadah","Rashid Stadium","Al Nahda","Airport
Free Zone","Al Qusais-1","Etisalat"}
                        self.var1=StringVar()
                        self.var2=StringVar()



self.From=OptionMenu(self,self.var1,*liststations)
                        self.var1.set('Select')
self.From.grid(row=1,column=1,sticky=W)

                   self.ins3=Label(self,text="To")

self.ins3.grid(row=2,column=0,columnspan=1,sticky=
W)

self.To=OptionMenu(self,self.var2,*liststations)

                   self.var2.set('Select')

self.To.grid(row=2,column=1,columnspan=2,sticky=W
)

self.ins4=Label(self,text="CARD")

self.ins4.grid(row=3,column=0,sticky=W)

                   self.card=StringVar()

self.radiobutton1=Radiobutton(self,text="Gold",varia
ble=self.card,value="Gold").grid(row=4,column=0,sticky=W)

self.radiobutton2=Radiobutton(self,text="Silver",variable=self.card,value="Silver").grid(row=4,column=1,sticky=W)

self.radiobutton3=Radiobutton(self,text="Blue",variable=self.card,value="Blue").grid(row=5,column=0,sticky=W)

self.radiobutton4=Radiobutton(self,text="Red",variable=self.card,value="Red").grid(row=5,column=1,sticky=W)

self.submit_button=Button(self,text="SUBMIT",command=self.bigprogram)

self.submit_button.grid(row=6,column=0,columnspan=2,sticky=W)
self.filebutton=Button(self,text="SAVE
SEARCH",command=self.fileprog)

self.filebutton.grid(row=7,column=0)

self.filebutton1=Button(self,text="USE MY SAVED
SEARCH",command=self.fileprogram)

self.filebutton1.grid(row=6,column=2)

self.newgui=Button(self,text="PRIVATE
ACCESS",command=self.rta)

self.newgui.grid(row=6,column=5)

self.newgui1=Button(self,text="MAP",command=self.
metromap)

self.newgui1.grid(row=7,column=2)
self.apply=Button(self,text="APPLY FOR A
JOB",command=self.jobapplication)
                          self.apply.grid(row=7,column=4)

self.feeder=Button(self,text="DISPLAY FEEDER
BUSES",command=self.feeder)

self.feeder.grid(row=6,column=4)



self.closebutton=Button(self,text="CLOSE",command
=root.destroy)

self.closebutton.grid(row=7,column=5)

self.text=Text(self,width=50,height=2,wrap=WORD)
self.text.grid(row=1,column=4,columnspan=2,sticky=
W)

self.text2=Text(self,width=50,height=2,wrap=WOR
D)

self.text2.grid(row=2,column=4,columnspan=4,sticky
=W)

self.text3=Text(self,width=50,height=2,wrap=WOR
D)

self.text3.grid(row=3,column=4,columnspan=4,sticky
=W)


                    #Create a label that displays
time:
                    self.display_time=Label(self,
text=the_time)
```

```
                        self.display_time.grid(row=0,
column=2)

                        def change_value_the_time():
                            global the_time
                            newtime =
time.strftime('%H:%M:%S')
                            if newtime != the_time:
                                the_time= newtime

self.display_time.config(text=the_time, font="40")
                            self.display_time.after(20,
change_value_the_time)

                        change_value_the_time()
```

```
                def bigprogram(self):

                    From=self.var1.get()

                    To=self.var2.get()

                    cardtype=self.card.get()



card=["Gold","Silver","Blue","Red"]

                    zone1=["Jebel Ali","Jebel
Ali Industrial"]

                    zone2=["Noor Islamic
Bank","First Gulf Bank","Mall of the
Emirates","Sharaf DG","Dubai Internet
City","Nakheel","Dubai Marina","Jumeirah Lake
Towers","Nakheel Harbor & Tower","Ibn
Battuta","Energy"]
```

```
                              zone3=["Business Bay","Burj
Khalifa / Dubai Mall"," Dubai International Financial
Centre ","Emirates Towers","Dubai World Trade
Centre ","Al Jafiliya","Al Karama","Creek","Al
Jaddaf","Dubai Healthcare City","Oud
Metha","Burjuman","Al Fahidi","Al Ghubaiba"]
                              zone4=["Al Ras","Baniyas
Square","Palm Deira","Union  Square","Al
Rigga","Deira City Centre","GGICO","Airport
Terminal-1","Airport Terminal-
3","Emirates","Rashidiya ","Salahuddin","Abu Bakr
Seddiq","Abu Hail",
                              "Al Qiyadah","Rashid
Stadium","Al Nahda","Airport Free Zone","Al
Qusais-1","Etisalat"]
                              liststations=["Jebel
Ali","Jebel Ali Industrial","Noor Islamic Bank","First
Gulf Bank",
                                             "Mall of the
Emirates","Sharaf DG","Dubai Internet
```

City","Nakheel","Dubai Marina","Jumeirah Lake Towers",

"Nakheel Harbor & Tower","Ibn Battuta","Energy","Business Bay",

"Burj Khalifa / Dubai Mall"," Dubai International Financial Centre ","Emirates Towers","Dubai World Trade Centre ","Al Jafiliya","Al Karama",

"Creek","Al Jaddaf","Dubai Healthcare City","Oud Metha","Burjuman","Al Fahidi","Al Ghubaiba","Al Ras",

"Baniyas Square","Palm Deira","Union Square","Al Rigga","Deira City Centre","GGICO","Airport Terminal-1","Airport Terminal-3",

"Emirates","Rashidiya ","Salahuddin","Abu Bakr Seddiq","Abu Hail",

```
                                              "Al
Qiyadah","Rashid Stadium","Al Nahda","Airport
Free Zone","Al Qusais-1","Etisalat"]

                         length=len(card)

                         length1=len(zone1)

                         length2=len(zone2)

                         length3=len(zone3)

                         length4=len(zone4)

                         if ((From in liststations) and
(To in liststations) and (cardtype in card)):



                            if(cardtype=="Gold"):

                               if (From==To):

                                  message= "IF
YOU TAG OUT FROM SAME STATION IT WILL
COST YOU MINIMUM AMOUNT: AED.3.6"
```

```
                              elif ((From in zone1)
and (To in zone1)):

a=zone1.index(From)

b=zone1.index(To)

                                 if (b==a+1 or
a==b+1):

                                    message=
"Price",":","Aed.6.0"

                                 else:

                                    message=
"Price",":","Aed.6.0"


                              elif ((From in zone2)
and (To in zone2)):

a=zone2.index(From)
```

```
b=zone2.index(To)
                                        if (b==a+1 or
a==b+1):
                                            message=
"Price",":","Aed.6.0"
                                        else:

message="Aed.4.6"
                                    elif ((From in zone3)
and (To in zone3)):

a=zone3.index(From)

b=zone3.index(To)
                                        if (b==a+1 or
a==b+1):
                                            message=
"Price",":","Aed.6.0"
```

```
                                       else:

                                           message=
"Price",":","Aed.6.0"



                                   elif ((From in zone4)
and (To in zone4)):

a=zone4.index(From)

b=zone4.index(To)
                                       if (b==a+1 or
a==b+1):

                                           message=
"Price",":","Aed.6.0"
                                       else:

                                           message=
"Price",":","Aed.6.0"
```

```
                                       elif (From!=To):
                                           for i in
range(0,length1):
                                               a=zone1[i]
                                               if (a==From):
                                                   r="zone1"
                                               elif (a==To):
                                                   s="zone1"
                                           for j in
range(0,length2):
                                              b=zone2[j]
                                              if (b==From):
                                                   r="zone2"
                                              elif (b==To):
                                                   s="zone2"
                                           for k in
range(0,length3):
        c=zone3[k]
        if (c==From):
            r="zone3"
        elif(c==To):
            s="zone3"
    for l in range(0,length4):
        d=zone4[l]
        if (d==From):
            r="zone4"
        elif(d==To):
            s="zone4"
```

```
                                  if (r=="zone1"
and s=="zone2"):
                                     message=
"Price",":","Aed.10.0"
                                  elif (r=="zone1"
and s=="zone3"):
                                     message=
"Price",":","Aed.15.0"
                                  elif (r=="zone1"
and s=="zone4"):
                                     message=
"Price",":","Aed.15.0"
                                  elif (r=="zone2"
and s=="zone1"):
                                     message=
"Price",":","Aed.10.0"
```

```
                                        elif (r=="zone2"
and s=="zone3"):
                                           message=
"Price",":","Aed.10.0"
                                        elif (r=="zone2"
and s=="zone4"):
                                           message=
"Price",":","Aed.15.0"
                                        elif (r=="zone3"
and s=="zone1"):
                                           message=
"Price",":","Aed.15.0"
                                        elif (r=="zone3"
and s=="zone4"):
                                           message=
"Price",":","Aed.10.0"


                                        elif (r=="zone3"
and s=="zone2"):
```

```
                                   message=
"Price",":","Aed.10.0"
                                elif (r=="zone4"
and s=="zone1"):
                                   message=
"Price",":","Aed.15.0"
                                elif (r=="zone4"
and s=="zone2"):
                                   message=
"Price",":","Aed.15.0"
                                elif (r=="zone4"
and s=="zone3"):
                                   message=
"Price",":","Aed.10.0"



if(cardtype=="Silver"):
                                if (From==To):
```

```
                                              message= "IF
YOU TAG OUT FROM SAME STATION IT WILL
COST YOU MINIMUM AMOUNT: AED.1.8"
                                          elif ((From in
zone1) and (To in zone1)):

a=zone1.index(From)

b=zone1.index(To)
                                           if (b==a+1 or
a==b+1):
                                              message=
"Price",":","Aed.3.0"
                                           else:
                                              message=
"Price",":","Aed.3.0"


                                          elif ((From in
zone2) and (To in zone2)):
```

```
a=zone2.index(From)

b=zone2.index(To)
                                          if (b==a+1 or
a==b+1):
                                           message=
"Price",":","Aed.3.0"
                                          else:
                                           message=
"Price",":","Aed.3.0"
                                      elif ((From in
zone3) and (To in zone3)):

a=zone3.index(From)

b=zone3.index(To)
                                        if (b==a+1 or
a==b+1):
```

```
                                       message=
"Price",":","Aed.3.0"
                                   else:
                                       message=
"Price",":","Aed.3.0"

                                  elif ((From in
zone4) and (To in zone4)):
a=zone4.index(From)
b=zone4.index(To)
                                    if (b==a+1 or
a==b+1):
                                      message=
"Price",":","Aed.3.0"
                                    else:
                                      message=
"Price",":","Aed.3.0"
```

```
                                         elif (From!=To):
                                            for i in
range(0,length1):
                                              a=zone1[i]
                                              if
(a==From):
                                                 r="zone1"
                                              elif (a==To):
                                                 s="zone1"
                                            for j in
range(0,length2):
                                              b=zone2[j]
                                              if
(b==From):

r="zone2"
                                              elif (b==To):
```

```
s="zone2"
                                          for k in
range(0,length3):
                                            c=zone3[k]
                                            if
(c==From):
                                               r="zone3"
                                            elif(c==To):
                                               s="zone3"
                                          for l in
range(0,length4):
                                               d=zone4[l]
                                               if
(d==From):
                                                r="zone4"

elif(d==To):
```

```
s="zone4"

if (r=="zone1"
and s=="zone2"):
message=
"Price",":","Aed.5.0"
elif
(r=="zone1" and s=="zone3"):
message=
"Price",":","Aed.7.5"
elif
(r=="zone1" and s=="zone4"):
message=
"Price",":","Aed.7.5"
elif
(r=="zone2" and s=="zone1"):
```

```
                                             message=
"Price",":","Aed.5.0"


                                        elif
(r=="zone2" and s=="zone3"):
                                             message=
"Price",":","Aed.5.0"
                                        elif
(r=="zone2" and s=="zone4"):
                                             message=
"Price",":","Aed.7.5"
                                        elif
(r=="zone3" and s=="zone1"):
                                             message=
"Price",":","Aed.7.5"
                                        elif
(r=="zone3" and s=="zone4"):
                                             message=
"Price",":","Aed.5.0"
```

```
                                        elif
(r=="zone3" and s=="zone2"):
                                            message=
"Price",":","Aed.5.0"
                                        elif
(r=="zone4" and s=="zone1"):
                                            message=
"Price",":","Aed.7.5"
                                        elif
(r=="zone4" and s=="zone2"):
                                            message=
"Price",":","Aed.7.5"
                                        elif
(r=="zone4" and s=="zone3"):
                                            message=
"Price",":","Aed.5.0"
                                  if(cardtype=="Red"):
                                     if (From==To):
                                            message= "IF
YOU TAG OUT FROM SAME STATION IT WILL
COST YOU MINIMUM AMOUNT: AED.2.0"
                                        elif ((From in
zone1) and (To in zone1)):

a=zone1.index(From)

b=zone1.index(To)
                                         if (b==a+1 or
a==b+1):
                                            message=
"Price",":","Aed.4.0"
                                         else:
                                            message=
"Price",":","Aed.4.0"


                                        elif ((From in
zone2) and (To in zone2)):
```

```
a=zone2.index(From)

b=zone2.index(To)
                                    if (b==a+1 or
a==b+1):
                                     message=
"Price",":","Aed.4.0"
                                    else:
                                     message=
"Price",":","Aed.4.0"
                                 elif ((From in
zone3) and (To in zone3)):

a=zone3.index(From)

b=zone3.index(To)
                                  if (b==a+1 or
a==b+1):
```

```
                                message=
"Price",":","Aed.4.0"
                             else:
                                message=
"Price",":","Aed.4.0"


                             elif ((From in
zone4) and (To in zone4)):

a=zone4.index(From)

b=zone4.index(To)
                              if (b==a+1 or
a==b+1):
                               message=
"Price",":","Aed.4.0"
                              else:
                               message=
"Price",":","Aed.4.0"
```

```
                                        elif (From!=To):
                                          for i in
range(0,length1):
                                            a=zone1[i]
                                            if
(a==From):
                                              r="zone1"
                                            elif (a==To):
                                              s="zone1"
                                          for j in
range(0,length2):
                                            b=zone2[j]
                                            if
(b==From):

r="zone2"
                                            elif (b==To):
```

```
s="zone2"
                                      for k in
range(0,length3):
                                        c=zone3[k]
                                        if
(c==From):
                                           r="zone3"
                                        elif(c==To):
                                           s="zone3"
                                      for l in
range(0,length4):
                                           d=zone4[l]
                                           if
(d==From):
                                            r="zone4"

elif(d==To):
```

```
s="zone4"

if (r=="zone1"
and s=="zone2"):
message=
"Price",":","Aed.6.0"
elif
(r=="zone1" and s=="zone3"):
message=
"Price",":","Aed.8.5"
elif
(r=="zone1" and s=="zone4"):
message=
"Price",":","Aed.8.5"
elif
(r=="zone2" and s=="zone1"):
```

```
                                                            message=
"Price",":","Aed.6.0"


                                                      elif
(r=="zone2" and s=="zone3"):
                                                            message=
"Price",":","Aed.6.0"
                                                      elif
(r=="zone2" and s=="zone4"):
                                                            message=
"Price",":","Aed.8.5"
                                                      elif
(r=="zone3" and s=="zone1"):
                                                            message=
"Price",":","Aed.8.5"
                                                      elif
(r=="zone3" and s=="zone4"):
                                                            message=
"Price",":","Aed.6.0"
```

```
                                        elif
(r=="zone3" and s=="zone2"):
                                            message=
"Price",":","Aed.6.0"
                                        elif
(r=="zone4" and s=="zone1"):
                                            message=
"Price",":","Aed.8.5"
                                        elif
(r=="zone4" and s=="zone2"):
                                            message=
"Price",":","Aed.8.5"
                                        elif
(r=="zone4" and s=="zone3"):
                                            message=
"Price",":","Aed.6.0"
                                  if(cardtype=="Blue"):
                                     if (From==To):
                                             message= "IF
YOU TAG OUT FROM SAME STATION IT WILL
COST YOU MINIMUM AMOUNT: AED.0.9"
                                         elif ((From in
zone1) and (To in zone1)):

a=zone1.index(From)

b=zone1.index(To)
                                          if (b==a+1 or
a==b+1):
                                             message=
"Price",":","Aed.1.5"
                                          else:
                                             message=
"Price",":","Aed.1.5"


                                         elif ((From in
zone2) and (To in zone2)):
```

```
a=zone2.index(From)

b=zone2.index(To)
                                        if (b==a+1 or
a==b+1):
                                           message=
"Price",":","Aed.1.5"
                                        else:
                                           message=
"Price",":","Aed.1.5"
                                       elif ((From in
zone3) and (To in zone3)):

a=zone3.index(From)

b=zone3.index(To)
                                        if (b==a+1 or
a==b+1):
```

```
                                          message=
"Price",":","Aed.1.5"
                                       else:
                                          message=
"Price",":","Aed.1.5"


                                      elif ((From in
zone4) and (To in zone4)):

a=zone4.index(From)

b=zone4.index(To)
                                       if (b==a+1 or
a==b+1):
                                          message=
"Price",":","Aed.1.5"
                                       else:
                                          message=
"Price",":","Aed.1.5"
```

```
elif (From!=To):
 for i in
range(0,length1):
  a=zone1[i]
  if (a==From):
    r="zone1"
  elif (a==To):
    s="zone1"
 for j in
range(0,length2):
  b=zone2[j]
  if (b==From):
    r="zone2"
  elif (b==To):
    s="zone2"
```

```
for k in
range(0,length3):
 c=zone3[k]
 if (c==From):
   r="zone3"
 elif(c==To):
   s="zone3"
for l in
range(0,length4):
 d=zone4[l]
 if (d==From):
   r="zone4"
 elif(d==To):
   s="zone4"
```

```
                                        if (r=="zone1"
and s=="zone2"):
                                              message=
"Price",":","Aed.2.5"
                                        elif (r=="zone1"
and s=="zone3"):
                                              message=
"Price",":","Aed.3.75"
                                        elif (r=="zone1"
and s=="zone4"):
                                              message=
"Price",":","Aed.3.75"
                                        elif (r=="zone2"
and s=="zone1"):
                                              message=
"Price",":","Aed.2.5"


                                        elif (r=="zone2"
and s=="zone3"):
```

```
                                        message=
"Price",":","Aed.2.5"

                                elif (r=="zone2"
and s=="zone4"):

                                        message=
"Price",":","Aed.3.75"

                                elif (r=="zone3"
and s=="zone1"):

                                        message=
"Price",":","Aed.3.75"

                                elif (r=="zone3"
and s=="zone4"):

                                        message=
"Price",":","Aed.2.5"



                                elif (r=="zone3"
and s=="zone2"):

                                        message=
"Price",":","Aed.2.5"
```

```
                                        elif (r=="zone4"
and s=="zone1"):
                                              message=
"Price",":","Aed.3.75"
                                        elif (r=="zone4"
and s=="zone2"):
                                              message=
"Price",":","Aed.3.75"
                                        elif (r=="zone4"
and s=="zone3"):
                                              message=
"Price",":","Aed.2.5"

self.text.delete(0.0,END)

self.text.insert(0.0,message)

                              import datetime
```

```
y=datetime.datetime.now()
                            hour=y.hour
                            minute=y.minute
                            liststations=["Jebel
Ali","Jebel Ali Industrial","Noor Islamic Bank","First
Gulf Bank",
                                    "Mall of the
Emirates","Sharaf DG","Dubai Internet
City","Nakheel","Dubai Marina","Jumeirah Lake
Towers",
                                    "Nakheel
Harbor & Tower","Ibn Battuta","Energy","Business
Bay",
                                    "Burj Khalifa /
Dubai Mall"," Dubai International Financial Centre
","Emirates Towers","Dubai World Trade Centre
","Al Jafiliya","Al Karama",
                                    "Creek","Al
Jaddaf","Dubai Healthcare City","Oud
Metha","Burjuman","Al Fahidi","Al Ghubaiba","Al
Ras",

                                        "Baniyas
Square","Palm Deira","Union  Square","Al
Rigga","Deira City Centre","GGICO","Airport
Terminal-1","Airport Terminal-3",


"Emirates","Rashidiya ","Salahuddin","Abu Bakr
Seddiq","Abu Hail",

                                        "Al
Qiyadah","Rashid Stadium","Al Nahda","Airport
Free Zone","Al Qusais-1","Etisalat"]
                         length=len(liststations)


i=liststations.index(From)





                         if (i%2==0):
```

```
                                  if (hour==23 and
minute>28):
                                     message1=
"The next train will arrive at",5,":",45




                                  if (hour==0 or
hour==1 or hour==2 or hour==3 or hour==4 or
hour==5 or hour>23):
                                         message1=
"The next train will arrive at",5,":",45
                                  if (hour==5):
                                     if
(minute>44):
                                         message1=
"The next train will arrive at",5,":",45
                                     elif
(minute>45):
```

```
                                           message1=
"The next train will arrive at",5,":",53

elif(minute>53):
                                           message1=
"The next train will arrive at",6,":",01
                                    elif(hour==6):
                                       for minhand
in range(2,60,8):

if(minhand>=minute and minute<=58):

message1= "The next train will arrive
at",6,":",minhand
                                              break

elif(minute>58):

message1= "The next train will arrive at",7,":",06
```

```
                                              break

                                    elif(hour==7):

                                       for minhand
in range(6,60,8):


if(minhand>=minute and minute<=54):


message1= "The next train will arrive
at",7,":",minhand
                                              break


elif(minute>54):


message1= "The next train will arrive at",8,":",02
                                              break

                                    elif(hour==8):

                                       for minhand
in range(2,60,8):
```

```
if(minhand>=minute and minute<=58):

message1= "The next train will arrive
at",8,":",minhand
                                                  break

elif(minute>58):

message1= "The next train will arrive at",9,":",06
                                                  break
                                       elif(hour==9):
                                          for minhand
in range(6,60,6):

if(minhand>=minute and minute<=54):

message1= "The next train will arrive
at",9,":",minhand
```

```
                                                      break

elif(minute>54):

message1= "The next train will arrive at",10,":",02
                                                      break
                                           elif(hour==10):
                                              for minhand
in range(2,60,6):

if(minhand>=minute and minute<=56):

message1= "The next train will arrive
at",10,":",minhand
                                                      break

elif(minute>56):

message1= "The next train will arrive at",11,":",04
```

```
                                              break

                                    elif(hour==11):

                                       for minhand
in range(4,60,6):

if(minhand>=minute and minute<=58):

message1= "The next train will arrive
at",11,":",minhand
                                              break

elif(minute>58):

message1= "The next train will arrive at",12,":",06
                                              break

                                    elif(hour==12):
                                       for minhand
in range(6,60,6):

if(minhand>=minute and minute<=54):

message1= "The next train will arrive
at",12,":",minhand
                                                      break

elif(minute>54):

message1= "The next train will arrive at",13,":",02
                                                      break
                                   elif(hour==13):
                                       for minhand
in range(2,60,8):

if(minhand>=minute and minute<=58):
```

```
message1= "The next train will arrive
at",13,":",minhand
                                             break

elif(minute>58):

message1= "The next train will arrive at",14,":",06
                                             break
                                  elif(hour==14):
                                      for minhand
in range(6,60,8):

if(minhand>=minute and minute<=54):

message1= "The next train will arrive
at",14,":",minhand
                                             break
```

```
elif(minute>54):

message1= "The next train will arrive at",15,":",02
                                          break
                                elif(hour==15):
                                   for minhand
in range(2,60,8):

if(minhand>=minute and minute<=58):

message1= "The next train will arrive
at",15,":",minhand
                                          break

elif(minute>58):

message1= "The next train will arrive at",16,":",06
                                          break
```

```
                                       elif(hour==16):

                                           for minhand
in range(6,60,6):


if(minhand>=minute and minute<=54):


message1= "The next train will arrive
at",16,":",minhand

                                                   break


elif(minute>54):


message1= "The next train will arrive at",17,":",00

                                                   break

                                       elif(hour==17):

                                           for minhand
in range(0,60,6):


if(minhand>=minute and minute<=54):
```

```
message1= "The next train will arrive
at",17,":",minhand
                                             break

elif(minute>54):

message1= "The next train will arrive at",18,":",00
                                             break
                                  elif(hour==18):
                                      print "hurray"
                                      for minhand
in range(0,60,6):

if(minhand>=minute and minute<=54):

message1= "The next train will arrive
at",18,":",minhand
                                             break
```

```
elif(minute>54):

message1= "The next train will arrive at",19,":",00
                                                   break

                                          elif(hour==19):
                                             for minhand
in range(0,60,6):

if(minhand>=minute and minute<=54):

message1= "The next train will arrive
at",19,":",minhand
                                                   break

elif(minute>54):

message1= "The next train will arrive at",20,":",00
```

```
                                                        break


                                              elif(hour==20):
                                                  for minhand
in range(0,60,6):

if(minhand>=minute and minute<=54):

message1= "The next train will arrive
at",20,":",minhand
                                                        break

elif(minute>54):

message1= "The next train will arrive at",21,":",00
                                                        break
                                              elif(hour==21):
                                                    for minhand
in range(0,60,8):

if(minhand>=minute and minute<=56):

message1= "The next train will arrive
at",21,":",minhand
                                                          break

elif(minute>56):

message1= "The next train will arrive at",22,":",02
                                                          break
                                                elif(hour==22):
                                                    for minhand
in range(2,60,8):

if(minhand>=minute and minute<=58):
```

```
message1= "The next train will arrive
at",22,":",minhand
                                                  break

elif(minute>58):

message1= "The next train will arrive at",23,":",04
                                                  break
                                        elif(hour==23):
                                           for minhand
in range(4,26,8):

if(minhand>=minute):

message1= "The next train will arrive
at",23,":",minhand
                                                  break
```

```
                        elif(i%2!=0):
                           if (hour==23 and
minute>28):
                                 message1=
"The next train will arrive at",5,":",45
                           if (hour==0 or
hour==1 or hour==2 or hour==3 or hour==4 or
hour==5 or hour>23):
                              message1= "The
next train will arrive at",5,":",47
                           if (hour==5):
                              if (minute>44):
                                 message1=
"The next train will arrive at",5,":",47
                              elif (minute>45):
                                 message1=
"The next train will arrive at",5,":",55
```

```
                                       elif(minute>53):
                                           message1=
"The next train will arrive at",6,":",03
                                   elif(hour==6):
                                       for minhand in
range(3,60,8):

if(minhand>=minute and minute<=59):
                                               message1=
"The next train will arrive at",6,":",minhand
                                               break

elif(minute>59):
                                               message1=
"The next train will arrive at",7,":",07
                                               break
                                   elif(hour==7):
                                          for minhand in
range(7,60,8):

if(minhand>=minute and minute<=55):
                                                  message1=
"The next train will arrive at",7,":",minhand
                                                  break

elif(minute>55):
                                                  message1=
"The next train will arrive at",8,":",03
                                                  break
                                      elif(hour==8):
                                          for minhand in
range(3,60,8):

if(minhand>=minute and minute<=59):
                                                  message1=
"The next train will arrive at",8,":",minhand
```

```
                                               break


elif(minute>59):

                                               message1=
"The next train will arrive at",9,":",07

                                               break

                                   elif(hour==9):

                                       for minhand in
range(7,60,6):


if(minhand>=minute and minute<=55):

                                               message1=
"The next train will arrive at",9,":",minhand

                                               break


elif(minute>55):

                                               message1=
"The next train will arrive at",10,":",01
```

```
                                         break
                               elif(hour==10):
                                  for minhand in
range(1,60,6):

if(minhand>=minute and minute<=55):
                                         message1=
"The next train will arrive at",10,":",minhand
                                         break


elif(minute>55):
                                         message1=
"The next train will arrive at",11,":",01
                                         break
                               elif(hour==11):
                                  for minhand in
range(1,60,6):
```

```
if(minhand>=minute and minute<=55):
                                        message1=
"The next train will arrive at",11,":",minhand
                                        break

elif(minute>55):
                                        message1=
"The next train will arrive at",12,":",01
                                        break

                              elif(hour==12):
                                 for minhand in
range(1,60,6):

if(minhand>=minute and minute<=55):
                                        message1=
"The next train will arrive at",12,":",minhand
```

```
                                         break


elif(minute>55):
                                         message1=
"The next train will arrive at",13,":",01
                                         break
                                 elif(hour==13):
                                    for minhand in
range(1,60,8):


if(minhand>=minute and minute<=57):
                                         message1=
"The next train will arrive at",13,":",minhand
                                         break


elif(minute>57):
                                         message1=
"The next train will arrive at",14,":",05
```

```
                                         break
                               elif(hour==14):
                                  for minhand in
range(5,60,8):

if(minhand>=minute and minute<=53):
                                         message1=
"The next train will arrive at",14,":",minhand
                                         break

elif(minute>53):
                                         message1=
"The next train will arrive at",15,":",01
                                         break
                               elif(hour==15):
                                  for minhand in
range(1,60,8):
```

```
if(minhand>=minute and minute<=57):
                                        message1=
"The next train will arrive at",15,":",minhand
                                        break

elif(minute>57):
                                        message1=
"The next train will arrive at",16,":",05
                                        break
                              elif(hour==16):
                                 for minhand in
range(5,60,6):

if(minhand>=minute and minute<=59):
                                        message1=
"The next train will arrive at",16,":",minhand
                                        break
```

```
elif(minute>59):
                                    message1=
"The next train will arrive at",17,":",05
                                    break
                            elif(hour==17):
                               for minhand in
range(5,60,6):

if(minhand>=minute and minute<=59):
                                    message1=
"The next train will arrive at",17,":",minhand
                                    break

elif(minute>59):
                                    message1=
"The next train will arrive at",18,":",05
                                    break
```

```
                                   elif(hour==18):
                                      for minhand in
range(5,60,6):

if(minhand>=minute and minute<=59):
                                            message1=
"The next train will arrive at",18,":",minhand
                                            break

elif(minute>59):
                                            message1=
"The next train will arrive at",19,":",05
                                            break
                                   elif(hour==19):
                                      for minhand in
range(5,60,6):

if(minhand>=minute and minute<=59):
```

```
                                           message1=
"The next train will arrive at",19,":",minhand
                                           break

elif(minute>59):
                                           message1=
"The next train will arrive at",20,":",05
                                           break



                                elif(hour==20):
                                    for minhand in
range(5,60,6):

if(minhand>=minute and minute<=59):
                                           message1=
"The next train will arrive at",20,":",minhand
                                           break
```

```
elif(minute>59):

                                           message1=
"The next train will arrive at",21,":",05

                                           break

                                elif(hour==21):

                                    for minhand in
range(5,60,8):


if(minhand>=minute and minute<=53):

                                           message1=
"The next train will arrive at",21,":",minhand

                                           break


elif(minute>53):

                                           message1=
"The next train will arrive at",22,":",01

                                           break
                                elif(hour==22):
                                   for minhand in
range(1,60,8):

if(minhand>=minute and minute<=57):
                                            message1=
"The next train will arrive at",22,":",minhand
                                            break

elif(minute>57):
                                            message1=
"The next train will arrive at",23,":",05
                                            break
                                elif(hour==23):
                                   for minhand in
range(5,29,8):

if(minhand>=minute):
```

```
                                                message1=
"The next train will arrive at",23,":",minhand
                                                break




self.text2.delete(0.0,END)

self.text2.insert(0.0,message1)

                                   RedLine=["Rashidiya
","Emirates","Airport Terminal-3","Airport
Terminal-1","GGICO","Deira City Centre","Al
Rigga","Union  Square","Burjuman","Al Karama",
                                   "Al Jafiliya","Dubai
World Trade Centre ","Emirates Towers"," Dubai
International Financial Centre ","Burj Khalifa /
Dubai Mall","Business Bay","Noor Islamic Bank",
                                  "First Gulf Bank","Mall
of the Emirates","Sharaf DG","Dubai Internet
City","Nakheel","Dubai Marina","Jumeirah Lake
Towers","Nakheel Harbor & Tower",
                                  "Ibn
Battuta","Energy","Jebel Ali Industrial","Jebel Ali"]

GreenLine=["Etisalat","Al Qusais-1","Airport Free
Zone","Al Nahda","Rashid Stadium","Al
Qiyadah","Abu Bakr Seddiq","Abu
Hail","Salahuddin","Union  Square","Baniyas Square",
                                  "Palm Deira","Al
Ras","Al Ghubaiba","Al Fahidi","Burjuman","Oud
Metha","Dubai Healthcare City","Al
Jaddaf","Creek"]
                                  Via=["Union
Square","Burjuman"]
                                  message0= "THE
NUMBER OF STATIONS AND INTERCHANGE
STATION IS:"
```

```
                            if((From in RedLine) and
(To in RedLine) and (From!="Burjuman") and
(From!="Union  Square") and (To!="Burjuman") and
(To!="Union  Square")):

x=RedLine.index(From)
                               y=RedLine.index(To)
                               if(y>x):
                                  message2=
From,"is",fabs(y-x),"stops
from",To,"towards",RedLine[len(RedLine)-1]
                               else:
                                  message2=
From,"is",fabs(y-x),"stops
from",To,"towards",RedLine[0]


                            if((From in GreenLine)
and (To in GreenLine) and (From!="Burjuman") and
(From!="Union  Square") and (To!="Burjuman") and
(To!="Union  Square")):

x=GreenLine.index(From)

y=GreenLine.index(To)
                             if(y>x):

                                message2=
From,"is",fabs(y-x),"stops
from",To,"towards",GreenLine[len(GreenLine)-1]
                             else:

                                message2=
From,"is",fabs(y-x),"stops
from",To,"towards",GreenLine[0]
                          if((From in GreenLine)
and (To in RedLine) and (From!="Burjuman") and
(From!="Union  Square") and (To!="Burjuman") and
(To!="Union  Square")):
```

```
x=GreenLine.index(From)

y=RedLine.index(To)

a=GreenLine.index("Union  Square")

b=GreenLine.index("Burjuman")
                                            if((fabs(a-
x))>(fabs(b-x))):
                                                message=
"Interchange Station is",GreenLine[b]

c=RedLine.index(GreenLine[b])
                                                if(x>b):
                                                    if(y>b):

message2=
From,"via",GreenLine[b],"towards",GreenLine[len(Gre
enLine)-1],"to",To,"is",(fabs(b-x)+fabs(c-y)),"stops
towards",RedLine[len(RedLine)-1]
                                                      else:


message2=
From,"via",GreenLine[b],"towards",GreenLine[len(Gre
enLine)-1],"to",To,"is",(fabs(b-x)+fabs(c-y)),"stops
towards",RedLine[0]
                                                 else:
                                                      if(y>b):


message2=
From,"via",GreenLine[b],"towards",GreenLine[0],"to",
To,"is",(fabs(b-x)+fabs(c-y)),"stops
towards",RedLine[len(RedLine)-1]
                                                      else:


message2=
From,"via",GreenLine[b],"towards",GreenLine[0],"to",
To,"is",(fabs(b-x)+fabs(c-y)),"stops
towards",RedLine[0]

                                          if((fabs(b-
x))>(fabs(a-x))):

                                              message2=
"Interchange Station is",GreenLine[a]


c=RedLine.index(GreenLine[a])

                                              if(x>a):

                                                  if(y>a):


message2=
From,"via",GreenLine[a],"towards",GreenLine[len(Gre
enLine)-1],"to",To,"is",(fabs(a-x)+fabs(c-y)),"stops
towards",RedLine[len(RedLine)-1]

                                                  else:


message2=
From,"via",GreenLine[a],"towards",GreenLine[len(Gre
enLine)-1],"to",To,"is",(fabs(a-x)+fabs(c-y)),"stops
towards",RedLine[0]
                                           else:
                                               if(y>a):

message2=
From,"via",GreenLine[a],"towards",GreenLine[0],"to",
To,"is",(fabs(a-x)+fabs(c-y)),"stops
towards",RedLine[len(RedLine)-1]
                                               else:

message2=
From,"via",GreenLine[a],"towards",GreenLine[0],"to",
To,"is",(fabs(a-x)+fabs(c-y)),"stops
towards",RedLine[0]



                               if((From in RedLine) and
(To in GreenLine) and (From!="Burjuman") and
```

```
(From!="Union  Square") and (To!="Burjuman") and
(To!="Union  Square")):

x=RedLine.index(From)

y=GreenLine.index(To)

a=RedLine.index("Union  Square")

b=RedLine.index("Burjuman")

                                     if((fabs(a-
x))>(fabs(b-x))):
                                         message2=
"Interchange Station is",RedLine[b]

c=GreenLine.index(RedLine[b])
                                         if(x>b):
                                             if(y>b):
```

```
                                         message2=
From,"via",RedLine[b],"towards",RedLine[len(RedLine)
-1],"to",To,"is",(fabs(b-x)+fabs(c-y)),"stops
towards",GreenLine[len(GreenLine)-1]
                                      else:
                                         message2=
From,"via",RedLine[b],"towards",RedLine[len(RedLine)
-1],"to",To,"is",(fabs(b-x)+fabs(c-y)),"stops
towards",GreenLine[0]
                                  else:
                                      if(y>b):
                                         message2=
From,"via",RedLine[b],"towards",RedLine[0],"to",To,"
is",(fabs(b-x)+fabs(c-y)),"stops
towards",GreenLine[len(GreenLine)-1]
                                      else:
                                         message2=
From,"via",RedLine[b],"towards",RedLine[0],"to",To,"
is",(fabs(b-x)+fabs(c-y)),"stops
towards",GreenLine[0]
```

```
                                        if((fabs(b-
x))>(fabs(a-x))):
                                            message2=
"Interchange Station is",RedLine[a]

c=GreenLine.index(RedLine[a])
                                            if(x>a):
                                                if(y>a):
                                                    message2=
From,"via",RedLine[a],"towards",RedLine[len(RedLine)
-1],"to",To,"is",(fabs(a-x)+fabs(c-y)),"stops
towards",GreenLine[len(GreenLine)-1]
                                                else:
                                                    message2=
From,"via",RedLine[a],"towards",RedLine[len(RedLine)
-1],"to",To,"is",(fabs(a-x)+fabs(c-y)),"stops
towards",GreenLine[0]
                                            else:
```

```
                                if(y>a):
                                   message2=
From,"via",RedLine[a],"towards",RedLine[0],"to",To,"
is",(fabs(a-x)+fabs(c-y)),"stops
towards",GreenLine[len(GreenLine)-1]
                                else:
                                   message2=
From,"via",RedLine[a],"towards",RedLine[0],"to",To,"
is",(fabs(a-x)+fabs(c-y)),"stops
towards",GreenLine[0]


                        if(From=="Burjuman"
and To=="Union  Square"):
                           message2= "Union
Square is 6 stops from Burjuman"
                        if(From=="Union
Square" and To=="Burjuman"):
                           message2=
"Burjuman is 6 stops from Union  Square"
```

```
                          if(((From=="Burjuman")
or (From=="Union  Square")) and (To!="Burjuman")
and (To!="Union  Square") ):
                              if(To in GreenLine):


x=GreenLine.index(From)


y=GreenLine.index(To)
                                 if(y>x):
                                    message2=
From,"is",fabs(y-x),"stops
from",To,"towards",GreenLine[len(GreenLine)-1]
                                 else:
                                    message2=
From,"is",fabs(y-x),"stops
from",To,"towards",GreenLine[0]
                              if(To in RedLine):


x=RedLine.index(From)
```

```
y=RedLine.index(To)
                                 if(y>x):
                                    message2=
From,"is",fabs(y-x),"stops
from",To,"towards",RedLine[len(RedLine)-1]
                                 else:
                                    message2=
From,"is",fabs(y-x),"stops
from",To,"towards",RedLine[0]
                          if(((To=="Burjuman") or
(To=="Union   Square")) and (From!="Burjuman") and
(From!="Union   Square")):
                             if(From in
GreenLine):

x=GreenLine.index(From)

y=GreenLine.index(To)
```

```
                                           if(y>x):
                                               message2=
From,"is",fabs(y-x),"stops
from",To,"towards",GreenLine[len(GreenLine)-1]
                                           else:
                                               message2=
From,"is",fabs(y-x),"stops
from",To,"towards",GreenLine[0]
                                       if(From in RedLine):

x=RedLine.index(From)

y=RedLine.index(To)
                                           if(y>x):
                                               message2=
From,"is",fabs(y-x),"stops
from",To,"towards",RedLine[len(RedLine)-1]
                                           else:
```

```
                                     message2=
From,"is",fabs(y-x),"stops
from",To,"towards",RedLine[0]

self.text3.delete(0.0,END)

self.text3.insert(0.0,message2)



                 def jobapplication(self):
                    class Application13(Frame):

                              def
__init__(self,master):

Frame.__init__(self,master)
                                 self.grid()
```

```
                                        self.create_widgets()

                                        self.count=0

                                    def
create_widgets(self):

self.instruction=Label(self,text="Job Application")

self.instruction.grid(row=0,column=0,columnspan=2,st
icky=W)

self.ins2=Label(self,text="Name")

self.ins2.grid(row=1,column=0,columnspan=1,sticky=
W)

self.name=Entry(self)

self.name.grid(row=1,column=1,sticky=W)
self.ins3=Label(self,text="Qualification")

self.ins3.grid(row=2,column=0,columnspan=1,sticky=
W)
                                        self.qual=Entry(self)

self.qual.grid(row=2,column=1,sticky=W)

self.ins4=Label(self,text="Position Sought")

self.ins4.grid(row=3,column=0,columnspan=1,sticky=
W)
                                        self.pos=Entry(self)

self.pos.grid(row=3,column=1,sticky=W)

self.ins5=Label(self,text="Current Address")
self.ins5.grid(row=4,column=0,columnspan=10,sticky=
W)
                                        self.add=Entry(self)

self.add.grid(row=4,column=1,sticky=W)

self.ins6=Label(self,text="Phone Number")

self.ins6.grid(row=5,column=0,columnspan=1,sticky=
W)
                                        self.pno=Entry(self)

self.pno.grid(row=5,column=1,sticky=W)

self.ins7=Label(self,text="Do you know Arabic?")

self.ins7.grid(row=6,column=0,sticky=W)
self.arabic=StringVar()

self.radiobutton1=Radiobutton(self,text="Yes",variable=self.arabic,value="Yes").grid(row=7,column=0,sticky=W)

self.radiobutton2=Radiobutton(self,text="No",variable=self.arabic,value="No").grid(row=7,column=1,sticky=W)

self.submit_button=Button(self,text="SUBMIT",command=self.save)

self.submit_button.grid(row=8,column=1,columnspan=2,sticky=W)
                             def save(self):

x=open("Jobapplicants.dat")
                                try:
                                    while True:

l=pickle.load(x)

                                          self.count+=1

                                except EOFError:

                                    pass

                                x.close()

x=open("Jobapplicants.dat","ab")

arabic=self.arabic.get()

name=self.name.get()

                                qual=self.qual.get()

                                pos=self.pos.get()

                                add=self.add.get()

                                pno=self.pno.get()
```

```
job=[self.count,name,qual,pos,add,pno,arabic]
                               y=pickle.dump(job,x)
                               x.close()
                               root13.destroy()
                     root13=Tk()
                     root13.title("Job Application")
                     root13.geometry("500x200")

root13.iconbitmap('C:\Users\mridu_000\Desktop\mzl.ico')
                     app=Application13(root13)
                     app.grid()
                     root13.mainloop()
```

```
          def metromap(self):

              class Application9(Frame):

                  pass


              root9=Toplevel()

              p =
PhotoImage(file="C:\Users\mridu_000\Desktop\duba
i_metro_map.gif")

              l = Label(root9, image=p)


              l.pack_propagate(0)

              l.pack(expand= YES, fill =
BOTH)

              l.grid()
```

```
root9.iconbitmap('C:\Users\mridu_000\Desktop\mzl.ico')

root9.configure(background='blue')
            root9.title("Metro Map")
            root9.geometry("590x444")
            app9=Application9(root9)
            app9.grid()
            root9.mainloop()




          def feeder(self):
            To=self.var2.get()
```

```
class Application9(Frame):
def __init__(self,master):
Frame.__init__(self,master)
self.grid()
self.create_widgets()
def create_widgets(self):
self.scrollbar = Scrollbar()
self.scrollbar.pack( side = RIGHT, fill=Y )
self.textfed=Text(self,width=50,height=35,wrap=WORD,yscrollcommand=self.scrollbar.set)
self.textfed.grid(row=0,column=0,columnspan=4,sticky=W,rowspan=10)

self.scrollbar.config( command =self.textfed.yview )

self.CLOSE=Button(self,text="CLOSE",command=root9.destroy)

self.CLOSE.grid(row=10,column=3,columnspan=2,sticky=W)



x=open("feeder.txt","r")

new=""
                                                    for i in x:
```

```
list1=i.split(",")

if(list1[0]==To):

new=i

self.textfed.delete(0.0,END)

self.textfed.insert(0.0,new)



x.close()
                                  root9=Tk()

root9.iconbitmap('C:\Users\mridu_000\Desktop\mzl.
ico')
```

```
root9.configure(background='Brown')
                    root9.title("Feeder Buses")
                    root9.geometry("400x590")
                    app9=Application9(root9)
                    app9.grid()
                    root9.mainloop()


                 def fileprog(self):
                           x=open("new.dat","wb")
                           From=self.var1.get()
                           To=self.var2.get()
                           cardtype=self.card.get()
```

```
list1=[From,To,cardtype]
                                pickle.dump(list1,x)
                                x.close()
                    def fileprogram(self):
                                x=open("new.dat","rb")
                                try:
                                    while True:
                                        m=pickle.load(x)
                                        From=m[0]
                                        To=m[1]
                                        cardtype=m[2]
                                except EOFError:
                                    pass
                                x.close()

card=["Gold","Silver","Blue","Red"]
```

```
zone1=["Jebel Ali","Jebel Ali Industrial"]

zone2=["Noor Islamic Bank","First Gulf Bank","Mall of the Emirates","Sharaf DG","Dubai Internet City","Nakheel","Dubai Marina","Jumeirah Lake Towers","Nakheel Harbor & Tower","Ibn Battuta","Energy"]

zone3=["Business Bay","Burj Khalifa / Dubai Mall"," Dubai International Financial Centre ","Emirates Towers","Dubai World Trade Centre ","Al Jafiliya","Al Karama","Creek","Al Jaddaf","Dubai Healthcare City","Oud Metha","Burjuman","Al Fahidi","Al Ghubaiba"]

zone4=["Al Ras","Baniyas Square","Palm Deira","Union Square","Al Rigga","Deira City Centre","GGICO","Airport Terminal-1","Airport Terminal-3","Emirates","Rashidiya ","Salahuddin","Abu Bakr Seddiq","Abu Hail",
                    "Al Qiyadah","Rashid
Stadium","Al Nahda","Airport Free Zone","Al
Qusais-1","Etisalat"]
                    liststations=["Jebel
Ali","Jebel Ali Industrial","Noor Islamic Bank","First
Gulf Bank",
                                "Mall of the
Emirates","Sharaf DG","Dubai Internet
City","Nakheel","Dubai Marina","Jumeirah Lake
Towers",
                                "Nakheel
Harbor & Tower","Ibn Battuta","Energy","Business
Bay",
                                "Burj
Khalifa / Dubai Mall"," Dubai International Financial
Centre ","Emirates Towers","Dubai World Trade
Centre ","Al Jafiliya","Al Karama",
                                "Creek","Al
Jaddaf","Dubai Healthcare City","Oud
```

```
Metha","Burjuman","Al Fahidi","Al Ghubaiba","Al
Ras",
                                             "Baniyas
Square","Palm Deira","Union  Square","Al
Rigga","Deira City Centre","GGICO","Airport
Terminal-1","Airport Terminal-3",

"Emirates","Rashidiya ","Salahuddin","Abu Bakr
Seddiq","Abu Hail",
                                             "Al
Qiyadah","Rashid Stadium","Al Nahda","Airport
Free Zone","Al Qusais-1","Etisalat"]
                          length=len(card)
                          length1=len(zone1)
                          length2=len(zone2)
                          length3=len(zone3)
                          length4=len(zone4)
                          if ((From in liststations)
and (To in liststations) and (cardtype in card)):
```

```
                                        if(cardtype=="Gold"):
                                            if (From==To):
                                                message= "IF
YOU TAG OUT FROM SAME STATION IT WILL
COST YOU MINIMUM AMOUNT: AED.3.6"

                                            elif ((From in
zone1) and (To in zone1)):

a=zone1.index(From)

b=zone1.index(To)
                                                if (b==a+1 or
a==b+1):
                                                    message=
"Price",":","Aed.6.0"
```

```
                                else:
                                    message=
"Price",":","Aed.6.0"

                            elif ((From in
zone2) and (To in zone2)):

a=zone2.index(From)

b=zone2.index(To)
                                if (b==a+1 or
a==b+1):
                                    message=
"Price",":","Aed.6.0"
                                else:

message="Aed.4.6"
                            elif ((From in
zone3) and (To in zone3)):
```

```
a=zone3.index(From)

b=zone3.index(To)
                                  if (b==a+1 or
a==b+1):
                                     message=
"Price",":","Aed.6.0"
                                  else:
                                     message=
"Price",":","Aed.6.0"


                               elif ((From in
zone4) and (To in zone4)):

a=zone4.index(From)

b=zone4.index(To)
```

```
                                           if (b==a+1 or
a==b+1):
                                               message=
"Price",":","Aed.6.0"
                                           else:
                                               message=
"Price",":","Aed.6.0"


                                       elif (From!=To):
                                           for i in
range(0,length1):
                                               a=zone1[i]
                                               if
(a==From):

r="zone1"
                                               elif
(a==To):
```

```
s="zone1"
                                        for j in
range(0,length2):
                                           b=zone2[j]
                                           if
(b==From):

r="zone2"
                                           elif
(b==To):

s="zone2"
                                        for k in
range(0,length3):
                                            c=zone3[k]
                                            if
(c==From):
```

```
r="zone3"

elif(c==To):

s="zone3"
                                          for l in
range(0,length4):
                                             d=zone4[l]
                                             if
(d==From):

r="zone4"

elif(d==To):

s="zone4"
```

```
                                        if (r=="zone1"
and s=="zone2"):
                                           message=
"Price",":","Aed.10.0"
                                        elif
(r=="zone1" and s=="zone3"):
                                           message=
"Price",":","Aed.15.0"
                                        elif
(r=="zone1" and s=="zone4"):
                                           message=
"Price",":","Aed.15.0"
```

```
                                        elif
(r=="zone2" and s=="zone1"):
                                           message=
"Price",":","Aed.10.0"


                                        elif
(r=="zone2" and s=="zone3"):
                                           message=
"Price",":","Aed.10.0"
                                        elif
(r=="zone2" and s=="zone4"):
                                           message=
"Price",":","Aed.15.0"
                                        elif
(r=="zone3" and s=="zone1"):
                                           message=
"Price",":","Aed.15.0"
                                        elif
(r=="zone3" and s=="zone4"):
```

```
                                        message=
"Price",":","Aed.10.0"


                                    elif
(r=="zone3" and s=="zone2"):
                                        message=
"Price",":","Aed.10.0"
                                    elif
(r=="zone4" and s=="zone1"):
                                        message=
"Price",":","Aed.15.0"
                                    elif
(r=="zone4" and s=="zone2"):
                                        message=
"Price",":","Aed.15.0"
                                    elif
(r=="zone4" and s=="zone3"):
                                        message=
"Price",":","Aed.10.0"
```

```
if(cardtype=="Silver"):
                                        if
(From==To):
                                            message=
"IF YOU TAG OUT FROM SAME STATION IT
WILL COST YOU MINIMUM AMOUNT: AED.1.8"
                                        elif ((From in
zone1) and (To in zone1)):

a=zone1.index(From)

b=zone1.index(To)
                                         if (b==a+1
or a==b+1):
                                            message=
"Price",":","Aed.3.0"
                                         else:
```

```
                                                   message=
"Price",":","Aed.3.0"


                                               elif ((From in
zone2) and (To in zone2)):

a=zone2.index(From)

b=zone2.index(To)
                                                   if (b==a+1
or a==b+1):
                                                    message=
"Price",":","Aed.3.0"
                                                   else:
                                                    message=
"Price",":","Aed.3.0"
                                               elif ((From in
zone3) and (To in zone3)):
```

```
a=zone3.index(From)

b=zone3.index(To)
                                              if (b==a+1
or a==b+1):
                                                  message=
"Price",":","Aed.3.0"
                                              else:
                                                  message=
"Price",":","Aed.3.0"


                                             elif ((From in
zone4) and (To in zone4)):

a=zone4.index(From)

b=zone4.index(To)
```

```
if (b==a+1
or a==b+1):
message=
"Price",":","Aed.3.0"
else:
message=
"Price",":","Aed.3.0"

elif
(From!=To):
for i in
range(0,length1):

a=zone1[i]
if
(a==From):

r="zone1"
```

```
                                          elif
(a==To):

s="zone1"
                                        for j in
range(0,length2):

b=zone2[j]
                                          if
(b==From):

r="zone2"
                                          elif
(b==To):

s="zone2"
                                        for k in
range(0,length3):
```

```
c=zone3[k]
                                                  if
(c==From):

r="zone3"

elif(c==To):

s="zone3"
                                                for l in
range(0,length4):

d=zone4[l]
                                                     if
(d==From):

r="zone4"
```

```
elif(d==To):

s="zone4"



                                              if
(r=="zone1" and s=="zone2"):

message= "Price",":","Aed.5.0"
                                              elif
(r=="zone1" and s=="zone3"):

message= "Price",":","Aed.7.5"
                                              elif
(r=="zone1" and s=="zone4"):

message= "Price",":","Aed.7.5"
```

```
elif
(r=="zone2" and s=="zone1"):

message= "Price",":","Aed.5.0"

elif
(r=="zone2" and s=="zone3"):

message= "Price",":","Aed.5.0"
elif
(r=="zone2" and s=="zone4"):

message= "Price",":","Aed.7.5"
elif
(r=="zone3" and s=="zone1"):

message= "Price",":","Aed.7.5"
elif
(r=="zone3" and s=="zone4"):
```

```
message= "Price",":","Aed.5.0"

                                        elif
(r=="zone3" and s=="zone2"):

message= "Price",":","Aed.5.0"
                                        elif
(r=="zone4" and s=="zone1"):

message= "Price",":","Aed.7.5"
                                        elif
(r=="zone4" and s=="zone2"):

message= "Price",":","Aed.7.5"
                                        elif
(r=="zone4" and s=="zone3"):

message= "Price",":","Aed.5.0"
```

```
if(cardtype=="Red"):
                                        if
(From==To):
                                           message=
"IF YOU TAG OUT FROM SAME STATION IT
WILL COST YOU MINIMUM AMOUNT: AED.2.0"
                                        elif ((From in
zone1) and (To in zone1)):

a=zone1.index(From)

b=zone1.index(To)
                                         if (b==a+1
or a==b+1):
                                           message=
"Price",":","Aed.4.0"
                                         else:
```

```
                                        message=
"Price",":","Aed.4.0"

                                     elif ((From in
zone2) and (To in zone2)):

a=zone2.index(From)

b=zone2.index(To)
                                        if (b==a+1
or a==b+1):
                                         message=
"Price",":","Aed.4.0"
                                        else:
                                         message=
"Price",":","Aed.4.0"
                                     elif ((From in
zone3) and (To in zone3)):
```

```
a=zone3.index(From)

b=zone3.index(To)
                                        if (b==a+1
or a==b+1):
                                           message=
"Price",":","Aed.4.0"
                                        else:
                                           message=
"Price",":","Aed.4.0"


                                       elif ((From in
zone4) and (To in zone4)):

a=zone4.index(From)

b=zone4.index(To)
```

```
                                              if (b==a+1
or a==b+1):
                                                message=
"Price",":","Aed.4.0"
                                              else:
                                                message=
"Price",":","Aed.4.0"


                                            elif
(From!=To):
                                               for i in
range(0,length1):

a=zone1[i]
                                                 if
(a==From):

r="zone1"
```

```
                                                  elif
(a==To):

s="zone1"
                                                for j in
range(0,length2):

b=zone2[j]
                                                  if
(b==From):

r="zone2"
                                                  elif
(b==To):

s="zone2"
                                                for k in
range(0,length3):
```

```
c=zone3[k]
if (c==From):
r="zone3"
elif(c==To):
s="zone3"
for l in range(0,length4):
d=zone4[l]
if (d==From):
r="zone4"
```

```
elif(d==To):

s="zone4"



                                        if
(r=="zone1" and s=="zone2"):

message= "Price",":","Aed.6.0"
                                        elif
(r=="zone1" and s=="zone3"):

message= "Price",":","Aed.8.5"
                                        elif
(r=="zone1" and s=="zone4"):

message= "Price",":","Aed.8.5"
```

```
                                        elif
(r=="zone2" and s=="zone1"):

message= "Price",":","Aed.6.0"


                                        elif
(r=="zone2" and s=="zone3"):


message= "Price",":","Aed.6.0"
                                        elif
(r=="zone2" and s=="zone4"):


message= "Price",":","Aed.8.5"
                                        elif
(r=="zone3" and s=="zone1"):


message= "Price",":","Aed.8.5"
                                        elif
(r=="zone3" and s=="zone4"):
```

```
message= "Price",":","Aed.6.0"

elif (r=="zone3" and s=="zone2"):

message= "Price",":","Aed.6.0"

elif (r=="zone4" and s=="zone1"):

message= "Price",":","Aed.8.5"

elif (r=="zone4" and s=="zone2"):

message= "Price",":","Aed.8.5"

elif (r=="zone4" and s=="zone3"):

message= "Price",":","Aed.6.0"
```

```
if(cardtype=="Blue"):
                                                  if
(From==To):
                                                      message=
"IF YOU TAG OUT FROM SAME STATION IT
WILL COST YOU MINIMUM AMOUNT: AED.0.9"
                                                  elif ((From in
zone1) and (To in zone1)):

a=zone1.index(From)

b=zone1.index(To)
                                                   if (b==a+1
or a==b+1):
                                                      message=
"Price",":","Aed.1.5"
                                                   else:
```

```
                                                  message=
"Price",":","Aed.1.5"


                                              elif ((From in
zone2) and (To in zone2)):

a=zone2.index(From)

b=zone2.index(To)
                                               if (b==a+1
or a==b+1):
                                                  message=
"Price",":","Aed.1.5"
                                               else:
                                                  message=
"Price",":","Aed.1.5"
                                              elif ((From in
zone3) and (To in zone3)):
```

```
a=zone3.index(From)

b=zone3.index(To)
                                                  if (b==a+1
or a==b+1):
                                                     message=
"Price",":","Aed.1.5"
                                                  else:
                                                     message=
"Price",":","Aed.1.5"


                                                 elif ((From in
zone4) and (To in zone4)):

a=zone4.index(From)

b=zone4.index(To)
```

```
     if (b==a+1
or a==b+1):
        message=
"Price",":","Aed.1.5"
     else:
        message=
"Price",":","Aed.1.5"


    elif
(From!=To):
     for i in
range(0,length1):
      a=zone1[i]
      if
(a==From):
        r="zone1"
      elif
(a==To):
```

```
                                    s="zone1"
                                  for j in
range(0,length2):
                                   b=zone2[j]
                                   if
(b==From):
                                    r="zone2"
                                   elif
(b==To):
                                    s="zone2"
                                  for k in
range(0,length3):
                                   c=zone3[k]
                                   if
(c==From):
                                    r="zone3"
                                   elif(c==To):
                                    s="zone3"
                                    for l in
range(0,length4):
                                     d=zone4[l]
                                     if
(d==From):
                                       r="zone4"
                                     elif(d==To):
                                       s="zone4"



                                    if
(r=="zone1" and s=="zone2"):

message= "Price",":","Aed.2.5"
                                    elif
(r=="zone1" and s=="zone3"):
```

```
message= "Price",":","Aed.3.75"
                                              elif
(r=="zone1" and s=="zone4"):

message= "Price",":","Aed.3.75"
                                              elif
(r=="zone2" and s=="zone1"):

message= "Price",":","Aed.2.5"

                                              elif
(r=="zone2" and s=="zone3"):

message= "Price",":","Aed.2.5"
                                              elif
(r=="zone2" and s=="zone4"):

message= "Price",":","Aed.3.75"
```

```
elif
(r=="zone3" and s=="zone1"):

message= "Price",":","Aed.3.75"
elif
(r=="zone3" and s=="zone4"):

message= "Price",":","Aed.2.5"


elif
(r=="zone3" and s=="zone2"):

message= "Price",":","Aed.2.5"
elif
(r=="zone4" and s=="zone1"):

message= "Price",":","Aed.3.75"
elif
(r=="zone4" and s=="zone2"):
```

```
message= "Price",":","Aed.3.75"

                                                elif
(r=="zone4" and s=="zone3"):

message= "Price",":","Aed.2.5"

self.text.delete(0.0,END)

self.text.insert(0.0,message)

                                      import datetime

y=datetime.datetime.now()
                                      hour=y.hour
                                      minute=y.minute
                                      liststations=["Jebel
Ali","Jebel Ali Industrial","Noor Islamic Bank","First
Gulf Bank",
```

"Mall of the Emirates","Sharaf DG","Dubai Internet City","Nakheel","Dubai Marina","Jumeirah Lake Towers",

"Nakheel Harbor & Tower","Ibn Battuta","Energy","Business Bay",

"Burj Khalifa / Dubai Mall"," Dubai International Financial Centre ","Emirates Towers","Dubai World Trade Centre ","Al Jafiliya","Al Karama",

"Creek","Al Jaddaf","Dubai Healthcare City","Oud Metha","Burjuman","Al Fahidi","Al Ghubaiba","Al Ras",

"Baniyas Square","Palm Deira","Union Square","Al Rigga","Deira City Centre","GGICO","Airport Terminal-1","Airport Terminal-3",

```
"Emirates","Rashidiya ","Salahuddin","Abu Bakr
Seddiq","Abu Hail",

                                        "Al
Qiyadah","Rashid Stadium","Al Nahda","Airport
Free Zone","Al Qusais-1","Etisalat"]

length=len(liststations)

i=liststations.index(From)


                                   if (i%2==0):

                                         if (hour==23
and minute>28):

                                            message1=
"The next train will arrive at",5,":",45
```

```
                                  if
(From=="Dubai Healthcare City"):
                                     if
(hour==0 or hour==1 or hour==2 or hour==3 or
hour==4 or hour==5 or hour>23):

message1= "The next train will arrive at",5,":",45
                                     if
(hour==5):
                                        if
(minute>44):

message1= "The next train will arrive at",5,":",45
                                        elif
(minute>45):

message1= "The next train will arrive at",5,":",53

elif(minute>53):
```

```
message1= "The next train will arrive at",6,":",01

elif(hour==6):

for minhand in range(2,60,8):

if(minhand>=minute and minute<=58):

message1= "The next train will arrive at",6,":",minhand

break

elif(minute>58):

message1= "The next train will arrive at",7,":",06

break
```

```
elif(hour==7):

                                                    for
minhand in range(6,60,8):

if(minhand>=minute and minute<=54):

message1= "The next train will arrive
at",7,":",minhand

break

elif(minute>54):

message1= "The next train will arrive at",8,":",02

break

elif(hour==8):
```

```
                                                       for
minhand in range(2,60,8):

if(minhand>=minute and minute<=58):

message1= "The next train will arrive
at",8,":",minhand

break

elif(minute>58):

message1= "The next train will arrive at",9,":",06

break

elif(hour==9):
                                                       for
minhand in range(6,60,6):
```

```
if(minhand>=minute and minute<=54):

message1= "The next train will arrive
at",9,":",minhand

break

elif(minute>54):

message1= "The next train will arrive at",10,":",02

break

elif(hour==10):
                                                  for
minhand in range(2,60,6):

if(minhand>=minute and minute<=56):
```

```
message1= "The next train will arrive
at",10,":",minhand

break

elif(minute>56):

message1= "The next train will arrive at",11,":",04

break

elif(hour==11):
                                                  for
minhand in range(4,60,6):

if(minhand>=minute and minute<=58):
```

```
message1= "The next train will arrive
at",11,":",minhand

break

elif(minute>58):

message1= "The next train will arrive at",12,":",06

break



elif(hour==12):
                                                  for
minhand in range(6,60,6):

if(minhand>=minute and minute<=54):
```

```
message1= "The next train will arrive
at",12,":",minhand

break

elif(minute>54):

message1= "The next train will arrive at",13,":",02

break

elif(hour==13):
                                                    for
minhand in range(2,60,8):

if(minhand>=minute and minute<=58):
```

```
message1= "The next train will arrive
at",13,":",minhand

break

elif(minute>58):

message1= "The next train will arrive at",14,":",06

break

elif(hour==14):
                                                        for
minhand in range(6,60,8):

if(minhand>=minute and minute<=54):
```

```
message1= "The next train will arrive
at",14,":",minhand

break

elif(minute>54):

message1= "The next train will arrive at",15,":",02

break

elif(hour==15):
                                                          for
minhand in range(2,60,8):

if(minhand>=minute and minute<=58):
```

```
message1= "The next train will arrive
at",15,":",minhand

break

elif(minute>58):

message1= "The next train will arrive at",16,":",06

break

elif(hour==16):
                                                    for
minhand in range(6,60,6):

if(minhand>=minute and minute<=54):
```

```
message1= "The next train will arrive at",16,":",minhand

break

elif(minute>54):

message1= "The next train will arrive at",17,":",00

break

elif(hour==17):
for minhand in range(0,60,6):

if(minhand>=minute and minute<=54):
```

```
message1= "The next train will arrive at",17,":",minhand

break

elif(minute>54):

message1= "The next train will arrive at",18,":",00

break

elif(hour==18):

for minhand in range(0,60,6):

if(minhand>=minute and minute<=54):
```

```
message1= "The next train will arrive
at",18,":",minhand

break

elif(minute>54):

message1= "The next train will arrive at",19,":",00

break

elif(hour==19):
                                                    for
minhand in range(0,60,6):

if(minhand>=minute and minute<=54):
```

```
message1= "The next train will arrive
at",19,":",minhand

break

elif(minute>54):

message1= "The next train will arrive at",20,":",00

break



elif(hour==20):
                                                          for
minhand in range(0,60,6):

if(minhand>=minute and minute<=54):
```

```
message1= "The next train will arrive
at",20,":",minhand

break

elif(minute>54):

message1= "The next train will arrive at",21,":",00

break

elif(hour==21):
                                                    for
minhand in range(0,60,8):

if(minhand>=minute and minute<=56):
```

```
message1= "The next train will arrive
at",21,":",minhand

break

elif(minute>56):

message1= "The next train will arrive at",22,":",02

break

elif(hour==22):
                                                  for
minhand in range(2,60,8):

if(minhand>=minute and minute<=58):
```

```
message1= "The next train will arrive at",22,":",minhand

break

elif(minute>58):

message1= "The next train will arrive at",23,":",04

break

elif(hour==23):

for minhand in range(4,26,8):

if(minhand>=minute):
```

```
message1= "The next train will arrive
at",23,":",minhand

break

self.text2.delete(0.0,END)

self.text2.insert(0.0,message1)
                          else:
                             if (hour==23 and
minute>28):
                                   message1=
"The next train will arrive at",5,":",45
                             if (hour==0 or
hour==1 or hour==2 or hour==3 or hour==4 or
hour==5 or hour>23):
                                message1=
"The next train will arrive at",5,":",47
```

```
                                  if (hour==5):
                                      if
(minute>44):
                                         message1=
"The next train will arrive at",5,":",47
                                      elif
(minute>45):
                                         message1=
"The next train will arrive at",5,":",55

elif(minute>53):
                                         message1=
"The next train will arrive at",6,":",03
                                  elif(hour==6):
                                      for minhand
in range(3,60,8):

if(minhand>=minute and minute<=59):
```

```
message1= "The next train will arrive
at",6,":",minhand
                                           break

elif(minute>59):

message1= "The next train will arrive at",7,":",07
                                           break
                                 elif(hour==7):
                                    for minhand
in range(7,60,8):

if(minhand>=minute and minute<=55):

message1= "The next train will arrive
at",7,":",minhand
                                           break
```

```
elif(minute>55):

message1= "The next train will arrive at",8,":",03
                                                break
                                       elif(hour==8):
                                          for minhand
in range(3,60,8):

if(minhand>=minute and minute<=59):

message1= "The next train will arrive
at",8,":",minhand
                                                break

elif(minute>59):

message1= "The next train will arrive at",9,":",07
                                                break
```

```
                                    elif(hour==9):
                                       for minhand
in range(7,60,6):

if(minhand>=minute and minute<=55):

message1= "The next train will arrive
at",9,":",minhand
                                             break

elif(minute>55):

message1= "The next train will arrive at",10,":",01
                                             break
                                    elif(hour==10):
                                       for minhand
in range(1,60,6):

if(minhand>=minute and minute<=55):
```

```
message1= "The next train will arrive
at",10,":",minhand
                                          break

elif(minute>55):

message1= "The next train will arrive at",11,":",01
                                          break
                                  elif(hour==11):
                                     for minhand
in range(1,60,6):

if(minhand>=minute and minute<=55):

message1= "The next train will arrive
at",11,":",minhand
                                          break
```

```
elif(minute>55):

message1= "The next train will arrive at",12,":",01
                                             break

                                  elif(hour==12):
                                      for minhand
in range(1,60,6):

if(minhand>=minute and minute<=55):

message1= "The next train will arrive
at",12,":",minhand
                                             break

elif(minute>55):

message1= "The next train will arrive at",13,":",01
```

```
                                              break
                                    elif(hour==13):
                                       for minhand
in range(1,60,8):

if(minhand>=minute and minute<=57):

message1= "The next train will arrive
at",13,":",minhand
                                              break

elif(minute>57):

message1= "The next train will arrive at",14,":",05
                                              break
                                    elif(hour==14):
                                       for minhand
in range(5,60,8):
```

```
if(minhand>=minute and minute<=53):

message1= "The next train will arrive
at",14,":",minhand
                                              break

elif(minute>53):

message1= "The next train will arrive at",15,":",01
                                              break
                                    elif(hour==15):
                                       for minhand
in range(1,60,8):

if(minhand>=minute and minute<=57):

message1= "The next train will arrive
at",15,":",minhand
```

```
                                                    break

elif(minute>57):

message1= "The next train will arrive at",16,":",05
                                                    break
                                          elif(hour==16):
                                             for minhand
in range(5,60,6):

if(minhand>=minute and minute<=59):

message1= "The next train will arrive
at",16,":",minhand
                                                    break

elif(minute>59):

message1= "The next train will arrive at",17,":",05
```

```
                                               break
                                    elif(hour==17):
                                       for minhand
in range(5,60,6):

if(minhand>=minute and minute<=59):

message1= "The next train will arrive
at",17,":",minhand
                                               break

elif(minute>59):

message1= "The next train will arrive at",18,":",05
                                               break
                                    elif(hour==18):
                                       for minhand
in range(5,60,6):
```

```
if(minhand>=minute and minute<=59):

message1= "The next train will arrive
at",18,":",minhand
                                                    break

elif(minute>59):

message1= "The next train will arrive at",19,":",05
                                                    break
                                         elif(hour==19):
                                             for minhand
in range(5,60,6):

if(minhand>=minute and minute<=59):

message1= "The next train will arrive
at",19,":",minhand
```

```
                                                   break


elif(minute>59):


message1= "The next train will arrive at",20,":",05
                                                   break




                                         elif(hour==20):
                                            for minhand
in range(5,60,6):


if(minhand>=minute and minute<=59):


message1= "The next train will arrive
at",20,":",minhand
                                                   break
```

```
elif(minute>59):

message1= "The next train will arrive at",21,":",05
                                              break
                                    elif(hour==21):
                                       for minhand
in range(5,60,8):

if(minhand>=minute and minute<=53):

message1= "The next train will arrive
at",21,":",minhand
                                              break

elif(minute>53):

message1= "The next train will arrive at",22,":",01
                                              break
```

```
                                   elif(hour==22):

                                      for minhand
in range(1,60,8):


if(minhand>=minute and minute<=57):


message1= "The next train will arrive
at",22,":",minhand
                                             break


elif(minute>57):


message1= "The next train will arrive at",23,":",05
                                             break
                                   elif(hour==23):

                                      for minhand
in range(5,29,8):


if(minhand>=minute):
```

```
message1= "The next train will arrive
at",23,":",minhand
                                                  break



self.text2.delete(0.0,END)

self.text2.insert(0.0,message1)
                                        RedLine=["Rashidiya
","Emirates","Airport Terminal-3","Airport
Terminal-1","GGICO","Deira City Centre","Al
Rigga","Union  Square","Burjuman","Al Karama",
                                        "Al Jafiliya","Dubai
World Trade Centre ","Emirates Towers"," Dubai
International Financial Centre ","Burj Khalifa /
Dubai Mall","Business Bay","Noor Islamic Bank",
                                   "First Gulf
Bank","Mall of the Emirates","Sharaf DG","Dubai
Internet City","Nakheel","Dubai Marina","Jumeirah
Lake Towers","Nakheel Harbor & Tower",
                                   "Ibn
Battuta","Energy","Jebel Ali Industrial","Jebel Ali"]

GreenLine=["Etisalat","Al Qusais-1","Airport Free
Zone","Al Nahda","Rashid Stadium","Al
Qiyadah","Abu Bakr Seddiq","Abu
Hail","Salahuddin","Union  Square","Baniyas Square",
                                   "Palm Deira","Al
Ras","Al Ghubaiba","Al Fahidi","Burjuman","Oud
Metha","Dubai Healthcare City","Al
Jaddaf","Creek"]
                                   Via=["Union
Square","Burjuman"]
                                   message0= "THE
NUMBER OF STATIONS AND INTERCHANGE
STATION IS:"
```

```
                                        if((From in RedLine)
and (To in RedLine) and (From!="Burjuman") and
(From!="Union  Square") and (To!="Burjuman") and
(To!="Union  Square")):

x=RedLine.index(From)

y=RedLine.index(To)
                                            if(y>x):
                                                message2=
From,"is",fabs(y-x),"stops
from",To,"towards",RedLine[len(RedLine)-1]
                                            else:
                                                message2=
From,"is",fabs(y-x),"stops
from",To,"towards",RedLine[0]


                                        if((From in
GreenLine) and (To in GreenLine) and
(From!="Burjuman") and (From!="Union  Square") and
(To!="Burjuman") and (To!="Union  Square")):

x=GreenLine.index(From)

y=GreenLine.index(To)
                                 if(y>x):

                                    message2=
From,"is",fabs(y-x),"stops
from",To,"towards",GreenLine[len(GreenLine)-1]
                                 else:

                                    message2=
From,"is",fabs(y-x),"stops
from",To,"towards",GreenLine[0]
                              if((From in
GreenLine) and (To in RedLine) and
(From!="Burjuman") and (From!="Union  Square") and
(To!="Burjuman") and (To!="Union  Square")):
```

```
x=GreenLine.index(From)

y=RedLine.index(To)

a=GreenLine.index("Union  Square")

b=GreenLine.index("Burjuman")
                                    if((fabs(a-
x))>(fabs(b-x))):
                                        message=
"Interchange Station is",GreenLine[b]

c=RedLine.index(GreenLine[b])
                                        if(x>b):

if(y>b):

message2=
From,"via",GreenLine[b],"towards",GreenLine[len(Gre
enLine)-1],"to",To,"is",(fabs(b-x)+fabs(c-y)),"stops
towards",RedLine[len(RedLine)-1]
                                                  else:

message2=
From,"via",GreenLine[b],"towards",GreenLine[len(Gre
enLine)-1],"to",To,"is",(fabs(b-x)+fabs(c-y)),"stops
towards",RedLine[0]
                                              else:

if(y>b):

message2=
From,"via",GreenLine[b],"towards",GreenLine[0],"to",
To,"is",(fabs(b-x)+fabs(c-y)),"stops
towards",RedLine[len(RedLine)-1]
                                                  else:

message2=
From,"via",GreenLine[b],"towards",GreenLine[0],"to",
To,"is",(fabs(b-x)+fabs(c-y)),"stops
towards",RedLine[0]
                                                if((fabs(b-
x))>(fabs(a-x))):
                                                    message2=
"Interchange Station is",GreenLine[a]

c=RedLine.index(GreenLine[a])
                                                    if(x>a):

if(y>a):

message2=
From,"via",GreenLine[a],"towards",GreenLine[len(Gre
enLine)-1],"to",To,"is",(fabs(a-x)+fabs(c-y)),"stops
towards",RedLine[len(RedLine)-1]
                                                       else:
```

```
message2=
From,"via",GreenLine[a],"towards",GreenLine[len(Gre
enLine)-1],"to",To,"is",(fabs(a-x)+fabs(c-y)),"stops
towards",RedLine[0]
                                                        else:

if(y>a):

message2=
From,"via",GreenLine[a],"towards",GreenLine[0],"to",
To,"is",(fabs(a-x)+fabs(c-y)),"stops
towards",RedLine[len(RedLine)-1]
                                                            else:

message2=
From,"via",GreenLine[a],"towards",GreenLine[0],"to",
To,"is",(fabs(a-x)+fabs(c-y)),"stops
towards",RedLine[0]
```

```
                                   if((From in RedLine)
and (To in GreenLine) and (From!="Burjuman") and
(From!="Union  Square") and (To!="Burjuman") and
(To!="Union  Square")):

x=RedLine.index(From)

y=GreenLine.index(To)

a=RedLine.index("Union  Square")

b=RedLine.index("Burjuman")

                                      if((fabs(a-
x))>(fabs(b-x))):
                                         message2=
"Interchange Station is",RedLine[b]
```

```
c=GreenLine.index(RedLine[b])
                                                        if(x>b):
                                                             if(y>b):

message2=
From,"via",RedLine[b],"towards",RedLine[len(RedLine)
-1],"to",To,"is",(fabs(b-x)+fabs(c-y)),"stops
towards",GreenLine[len(GreenLine)-1]
                                                             else:

message2=
From,"via",RedLine[b],"towards",RedLine[len(RedLine)
-1],"to",To,"is",(fabs(b-x)+fabs(c-y)),"stops
towards",GreenLine[0]
                                                        else:
                                                             if(y>b):

message2=
From,"via",RedLine[b],"towards",RedLine[0],"to",To,"
is",(fabs(b-x)+fabs(c-y)),"stops
towards",GreenLine[len(GreenLine)-1]
                                         else:


message2=
From,"via",RedLine[b],"towards",RedLine[0],"to",To,"
is",(fabs(b-x)+fabs(c-y)),"stops
towards",GreenLine[0]


                                  if((fabs(b-
x))>(fabs(a-x))):
                                      message2=
"Interchange Station is",RedLine[a]

c=GreenLine.index(RedLine[a])
                                      if(x>a):
                                         if(y>a):
```

```
message2=
From,"via",RedLine[a],"towards",RedLine[len(RedLine)
-1],"to",To,"is",(fabs(a-x)+fabs(c-y)),"stops
towards",GreenLine[len(GreenLine)-1]
                                                else:

message2=
From,"via",RedLine[a],"towards",RedLine[len(RedLine)
-1],"to",To,"is",(fabs(a-x)+fabs(c-y)),"stops
towards",GreenLine[0]
                                            else:
                                                if(y>a):

message2=
From,"via",RedLine[a],"towards",RedLine[0],"to",To,"
is",(fabs(a-x)+fabs(c-y)),"stops
towards",GreenLine[len(GreenLine)-1]
                                                else:
```

```
message2=
From,"via",RedLine[a],"towards",RedLine[0],"to",To,"
is",(fabs(a-x)+fabs(c-y)),"stops
towards",GreenLine[0]


                                        if(From=="Burjuman"
and To=="Union  Square"):
                                            message2= "Union
Square is 6 stops from Burjuman"
                                        if(From=="Union
Square" and To=="Burjuman"):
                                            message2=
"Burjuman is 6 stops from Union  Square"


if(((From=="Burjuman") or (From=="Union  Square"))
and (To!="Burjuman") and (To!="Union  Square") ):
                                            if(To in
GreenLine):
```

```
x=GreenLine.index(From)

y=GreenLine.index(To)
                                      if(y>x):
                                         message2=
From,"is",fabs(y-x),"stops
from",To,"towards",GreenLine[len(GreenLine)-1]
                                      else:
                                         message2=
From,"is",fabs(y-x),"stops
from",To,"towards",GreenLine[0]
                                  if(To in RedLine):

x=RedLine.index(From)

y=RedLine.index(To)
                                      if(y>x):
```

```
                                                message2=
From,"is",fabs(y-x),"stops
from",To,"towards",RedLine[len(RedLine)-1]
                                             else:
                                                message2=
From,"is",fabs(y-x),"stops
from",To,"towards",RedLine[0]
                                      if(((To=="Burjuman")
or (To=="Union  Square")) and (From!="Burjuman")
and (From!="Union  Square")):
                                          if(From in
GreenLine):

x=GreenLine.index(From)

y=GreenLine.index(To)
                                             if(y>x):
```

```
                                           message2=
From,"is",fabs(y-x),"stops
from",To,"towards",GreenLine[len(GreenLine)-1]
                                       else:
                                           message2=
From,"is",fabs(y-x),"stops
from",To,"towards",GreenLine[0]
                                   if(From in
RedLine):

x=RedLine.index(From)

y=RedLine.index(To)
                                       if(y>x):
                                           message2=
From,"is",fabs(y-x),"stops
from",To,"towards",RedLine[len(RedLine)-1]
                                       else:
                                         message2=
From,"is",fabs(y-x),"stops
from",To,"towards",RedLine[0]

self.text3.delete(0.0,END)

self.text3.insert(0.0,message2)
                 def rta(self):


                     class Application1(Frame):
                        def __init__(self,master):

Frame.__init__(self,master)
                            self.grid()
                            self.create_widgets()
                            self.count=0
                        def create_widgets(self):
```

```
self.ins=Label(self,text="Password")

self.ins.grid(row=2,column=0,columnspan=1,sticky=W)



self.password=Entry(self,show="*")

self.password.grid(row=2,column=1,sticky=W)

self.submit_button=Button(self,text="SIGN-IN",command=self.newprog)

self.submit_button.grid(row=4,column=1,columnspan=2,sticky=W)

self.accessdenied=Text(self,width=35,height=1,wrap=WORD,background="lightgrey")
self.accessdenied.grid(row=3,column=1,columnspan=1
,sticky=W)

                    def newprog(self):

                       self.count+=1

                       if self.count<3:

password=self.password.get()

self.accessdenied.delete(0.0,END)
```

```
                                       if
(password=="qwerty"):
                                           root1.destroy()
                                           class
Application2(Frame):
                                             def
__init__(self,master):

Frame.__init__(self,master)
                                               self.grid()

self.create_widgets()
                                             def
create_widgets(self):

self.var1=StringVar()

listoperation={"Rename",
"Add Station",

"Delete Station",

"Modify Station Name","Restore Original File","Display","Display Job-Applicants"}

self.operation=OptionMenu(self,self.var1,*listoperation)

self.var1.set('Select Operation')

self.operation.grid(row=1,column=1,sticky=W)

self.instruction=Label(self,text="Choose Desired Operation")

self.instruction.grid(row=0,column=0,columnspan=2,sticky=W)
self.submit_button=Button(self,text="SUBMIT",com
mand=self.newprog2)

self.submit_button.grid(row=4,column=1,columnspan=
2,sticky=W)




                                            def
newprog2(self):

optype=self.var1.get()
                                                if
(optype=="Rename"):

root2.destroy()
                                                     class
Application3(Frame):
```

```
                                                def
__init__(self,master):

Frame.__init__(self,master)

self.grid()

self.create_widgets()
                                                def
create_widgets(self):

self.instruction=Label(self,text="Select Station to
be Renamed")

self.instruction.grid(row=0,column=0,columnspan=2,st
icky=W)

liststations={"Jebel Ali","Jebel Ali Industrial","Noor
Islamic Bank","First Gulf Bank",
```

"Mall of the Emirates","Sharaf DG","Dubai Internet City","Nakheel","Dubai Marina","Jumeirah Lake Towers",

"Nakheel Harbor & Tower","Ibn Battuta","Energy","Business Bay",

"Burj Khalifa / Dubai Mall"," Dubai International Financial Centre ","Emirates Towers","Dubai World Trade Centre ","Al Jafiliya","Al Karama",

"Creek","Al Jaddaf","Dubai Healthcare City","Oud Metha","Burjuman","Al Fahidi","Al Ghubaiba","Al Ras",

"Baniyas Square","Palm Deira","Union Square","Al Rigga","Deira City Centre","GGICO","Airport Terminal-1","Airport Terminal-3",

```
"Emirates","Rashidiya ","Salahuddin","Abu Bakr Seddiq","Abu Hail",

"Al Qiyadah","Rashid Stadium","Al Nahda","Airport Free Zone","Al Qusais-1","Etisalat"}

self.var1=StringVar()

self.operation=OptionMenu(self,self.var1,*liststations)

self.var1.set('Select')

self.operation.grid(row=1,column=0,sticky=W)



self.newname=Entry(self)
self.newname.grid(row=2,column=0,sticky=W)

self.submit_button=Button(self,text="SUBMIT",com
mand=self.rename)

self.submit_button.grid(row=3,column=0,columnspan=
2,sticky=W)


                                                  def
rename(self):

old=self.var1.get()

new=self.newname.get()

x=open("metro.txt","r")

y=open("new.txt","a")
```

```
for i in x:

if (i==old+"\n"):

y.write(new+"\n")

else:

y.write(i)

x.close()

y.close()

os.remove("metro.txt")

os.rename("new.txt","metro.txt")
```

```
root3=Toplevel()

p = PhotoImage(file="C:\Users\mridu_000\Desktop\cmeon.gif")
l = Label(root3, image=p)

l.pack_propagate(0)
l.pack()
l.grid()

root3.iconbitmap('C:\Users\mridu_000\Desktop\mzl.ico')
```

```
root3.configure(background='Dark Gray')

root3.title("Rename")

root3.geometry("325x325")

app3=Application3(root3)

app3.grid()

root3.mainloop()




if(optype=="Delete Station"):

root2.destroy()
```

```
                                                class
Application4(Frame):
                                                  def
__init__(self,master):

Frame.__init__(self,master)

self.grid()

self.create_widgets()
                                                  def
create_widgets(self):

self.instruction=Label(self,text="Select Station to
be Deleted")

self.instruction.grid(row=0,column=0,columnspan=2,st
icky=W)
```

```
liststations={"Jebel Ali","Jebel Ali Industrial","Noor
Islamic Bank","First Gulf Bank",

"Mall of the Emirates","Sharaf DG","Dubai Internet
City","Nakheel","Dubai Marina","Jumeirah Lake
Towers",

"Nakheel Harbor & Tower","Ibn
Battuta","Energy","Business Bay",

"Burj Khalifa / Dubai Mall"," Dubai International
Financial Centre ","Emirates Towers","Dubai World
Trade Centre ","Al Jafiliya","Al Karama",

"Creek","Al Jaddaf","Dubai Healthcare City","Oud
Metha","Burjuman","Al Fahidi","Al Ghubaiba","Al
Ras",

"Baniyas Square","Palm Deira","Union  Square","Al
Rigga","Deira City Centre","GGICO","Airport
Terminal-1","Airport Terminal-3",

"Emirates","Rashidiya ","Salahuddin","Abu Bakr
Seddiq","Abu Hail",

"Al Qiyadah","Rashid Stadium","Al Nahda","Airport
Free Zone","Al Qusais-1","Etisalat"}

self.var1=StringVar()

self.operation=OptionMenu(self,self.var1,*liststation
s)

self.var1.set('Select')

self.operation.grid(row=1,column=0,sticky=W)

self.submit_button=Button(self,text="SUBMIT",com
mand=self.delete)
```

```
self.submit_button.grid(row=2,column=0,columnspan=2,sticky=W)

def delete(self):

old=self.var1.get()

x=open("metro.txt","r")

y=open("new.txt","a")

for i in x:
```

```
if (i!=old+"\n"):

y.write(i)

x.close()

y.close()

os.remove("metro.txt")

os.rename("new.txt","metro.txt")



root4=Toplevel()
```

```
p =
PhotoImage(file="C:\Users\mridu_000\Desktop\cmeon.gif")

l =
Label(root4, image=p)



l.pack_propagate(0)
l.pack()
l.grid()

root4.iconbitmap('C:\Users\mridu_000\Desktop\mzl.ico')




root4.configure(background='Dark Salmon')


root4.title("Delete")
```

```
root4.geometry("325x300")

app4=Application4(root4)

app4.grid()

root4.mainloop()

if (optype=="Add Station"):

root2.destroy()

class Application5(Frame):

def __init__(self,master):

Frame.__init__(self,master)
```

```
self.grid()

self.create_widgets()

                                             def
create_widgets(self):

self.instruction=Label(self,text="Enter New Station
to be Added")

self.instruction.grid(row=0,column=0,columnspan=2,st
icky=W)




self.newname=Entry(self)

self.newname.grid(row=1,column=0,sticky=W)
self.submit_button=Button(self,text="SUBMIT",command=self.addnew)

self.submit_button.grid(row=3,column=0,columnspan=2,sticky=W)

def addnew(self):

new=self.newname.get()

x=open("metro.txt","r")

y=open("new.txt","a")

for i in x:
```

```
y.write(i)

y.write("\n"+new)

x.close()

y.close()

os.remove("metro.txt")

os.rename("new.txt","metro.txt")

root5=Toplevel()

                                              p =
PhotoImage(file="C:\Users\mridu_000\Desktop\cmeo
n.gif")
```

```
                                                  l =
Label(root5, image=p)


l.pack_propagate(0)
                                                  l.pack()
                                                  l.grid()

root5.iconbitmap('C:\Users\mridu_000\Desktop\mzl.
ico')





root5.configure(background='rosy brown')


root5.title("Add a new station")
```

```
root5.geometry("325x300")

app5=Application5(root5)

app5.grid()

root5.mainloop()

                                        if
(optype=="Restore Original File"):

root2.destroy()

                                           class
Application6(Frame):

                                             def
__init__(self,master):

Frame.__init__(self,master)
```

```
self.grid()

self.create_widgets()

def create_widgets(self):

self.instruction=Label(self,text="Restore Original File")

self.instruction.grid(row=0,column=0,columnspan=2,sticky=W)

self.submit_button=Button(self,text="CONFIRM",command=self.RESTORE)
self.submit_button.grid(row=1,column=0,columnspan=2,sticky=W)

def RESTORE(self):

x=open("standby.txt","r")

y=open("metro.txt","w")

for i in x:

y.write(i)
```

```
x.close()

y.close()


root6=Toplevel()


p = PhotoImage(file="C:\Users\mridu_000\Desktop\cmeon.gif")
l = Label(root6, image=p)


l.pack_propagate(0)
l.pack()
```

```
                                        l.grid()

root6.iconbitmap('C:\Users\mridu_000\Desktop\mzl.ico')

root6.configure(background='sandy brown')

root6.title("Restore")

root6.geometry("325x300")

app6=Application6(root6)

app6.grid()

root6.mainloop()
```

```
                                        if
(optype=="Display"):


                                           class
Application7(Frame):
                                             def
__init__(self,master):

Frame.__init__(self,master)

self.grid()

self.create_widgets()
                                             def
create_widgets(self):

self.scrollbar = Scrollbar()

self.scrollbar.pack( side = RIGHT, fill=Y )
self.display=Text(self,width=50,height=35,wrap=WORD,yscrollcommand=self.scrollbar.set)

self.display.grid(row=0,column=0,columnspan=4,sticky=W,rowspan=10)

self.scrollbar.config( command =self.display.yview )



self.submit_button=Button(self,text="DISPLAY",command=self.display1)

self.submit_button.grid(row=10,column=3,columnspan=2,sticky=W)



def display1(self):
```

```
y=open("metro.txt","r")

new=""

for i in y:


new=new+i

message4=new

self.display.delete(0.0,END)

self.display.insert(0.0,message4)
```

```
y.close()

root7=Toplevel()

root7.iconbitmap('C:\Users\mridu_000\Desktop\mzl.
ico')

root7.configure(background='burlywood')

root7.title("DISPLAY")
```

```
root7.geometry("599x660")

app7=Application7(root7)

app7.grid()

root7.mainloop()
                                            if
(optype=="Display Job-Applicants"):


                                                class
Application14(Frame):
                                                  def
__init__(self,master):

Frame.__init__(self,master)

self.grid()
self.create_widgets()

def create_widgets(self):

self.scrollbar = Scrollbar()

self.scrollbar.pack( side = RIGHT, fill=Y )

self.display=Text(self,width=50,height=35,wrap=WORD,yscrollcommand=self.scrollbar.set)

self.display.grid(row=0,column=0,columnspan=4,sticky=W,rowspan=10)

self.scrollbar.config( command =self.display.yview )
self.submit_button=Button(self,text="DISPLAY",com
mand=self.display1)

self.submit_button.grid(row=10,column=3,columnspan
=2,sticky=W)



                                                 def
display1(self):



import pickle

d={}

x=open("Jobapplicants.dat","rb")
```

```
try:

while True:



l=pickle.load(x)

d["Application Number:"]=l[0]

d["Name:"]=l[1]

d["Qualification:"]=l[2]

d["Position Sought:"]=l[3]

d["Place of Residence:"]=l[4]

d["Contact Number:"]=l[5]
```

```
d["Arabic?"]=l[6]

self.display.insert(0.0,d)

d={}

except EOFError:

pass

x.close()
```

```
root14=Toplevel()

root14.iconbitmap('C:\Users\mridu_000\Desktop\mzl.ico')

root14.configure(background='Dark khaki')

root14.title("DISPLAY")

root14.geometry("490x600")

app14=Application14(root14)
```

```
app14.grid()

root14.mainloop()




                                   root2=Toplevel()

                                   p =
PhotoImage(file="C:\Users\mridu_000\Desktop\duba
i.gif")

                                   l = Label(root2,
image=p)



l.pack_propagate(0)
```

```
                                        l.pack()

                                        l.grid()


root2.iconbitmap('C:\Users\mridu_000\Desktop\mzl.
ico')



root2.configure(background='Dark Gray')
                                        root2.title("FOR
OFFICIAL USE ONLY")

root2.geometry("320x275")

app2=Application2(root2)
                                        app2.grid()
                                        root2.mainloop()
                                    else:
```

```
                                  message="Access
Denied.Try Again!"

self.accessdenied.delete(0.0,END)

self.accessdenied.insert(0.0,message)



                            else:


root1.destroy()
                                          class
Application7(Frame):
                                           def
__init__(self,master):
```

```
Frame.__init__(self,master)

self.grid()

self.create_widgets()
                                                            def
create_widgets(self):

self.instruction=Label(self,text="UNAUTHORISED
ACCESS!",font=('bold',20))

self.instruction.grid(row=0,column=0,columnspan=2,st
icky=W)

root11=Toplevel()
```

```
                                                       p =
PhotoImage(file="C:\Users\mridu_000\Desktop\imag
es.gif")
                                                       l =
Label(root11, image=p)



l.pack_propagate(0)

l.pack()
                                                       l.grid()

root11.iconbitmap('C:\Users\mridu_000\Desktop\mz
l.ico')

root11.configure(background='Dark Gray')

root11.title("MESSAGE")
```

```
root11.geometry("340x295")

app11=Application7(root11)

app11.grid()

root11.mainloop()


                        root1=Toplevel()
                        p = PhotoImage(file="C:\Users\mridu_000\Desktop\pythonimg.gif")
                        l = Label(root1, image=p)


                        l.pack_propagate(0)
                        l.pack()
                        l.grid()
```

```
root1.iconbitmap('C:\Users\mridu_000\Desktop\mzl.
ico')

root1.configure(background='peru')
                    root1.title("FOR OFFICIAL
USE ONLY")
                    root1.geometry("420x270")
                    app1=Application1(root1)
                    app1.grid()
                    root1.mainloop()




             root=Tk()
```

```
                p =
PhotoImage(file="C:\Users\mridu_000\Desktop\Dubai_Metro_03.gif")
                l = Label(root, image=p)

                l.pack_propagate(0)
                l.pack()
                l.grid()

root.iconbitmap('C:\Users\mridu_000\Desktop\mzl.ico')



                root.option_add("*background","white")
                root.configure(background='Brown')
                root.title("Metro Trip Planner")
                root.geometry("720x616")
                app=Application(root)
                app.grid()
                root.mainloop()

rootmain=Tk()
p = 
PhotoImage(file="C:\Users\mridu_000\Desktop\metr
oopen.gif")
l = Label(rootmain, image=p)


l.pack_propagate(0)
l.pack()
l.grid()
rootmain.iconbitmap('C:\Users\mridu_000\Desktop\
mzl.ico')
```

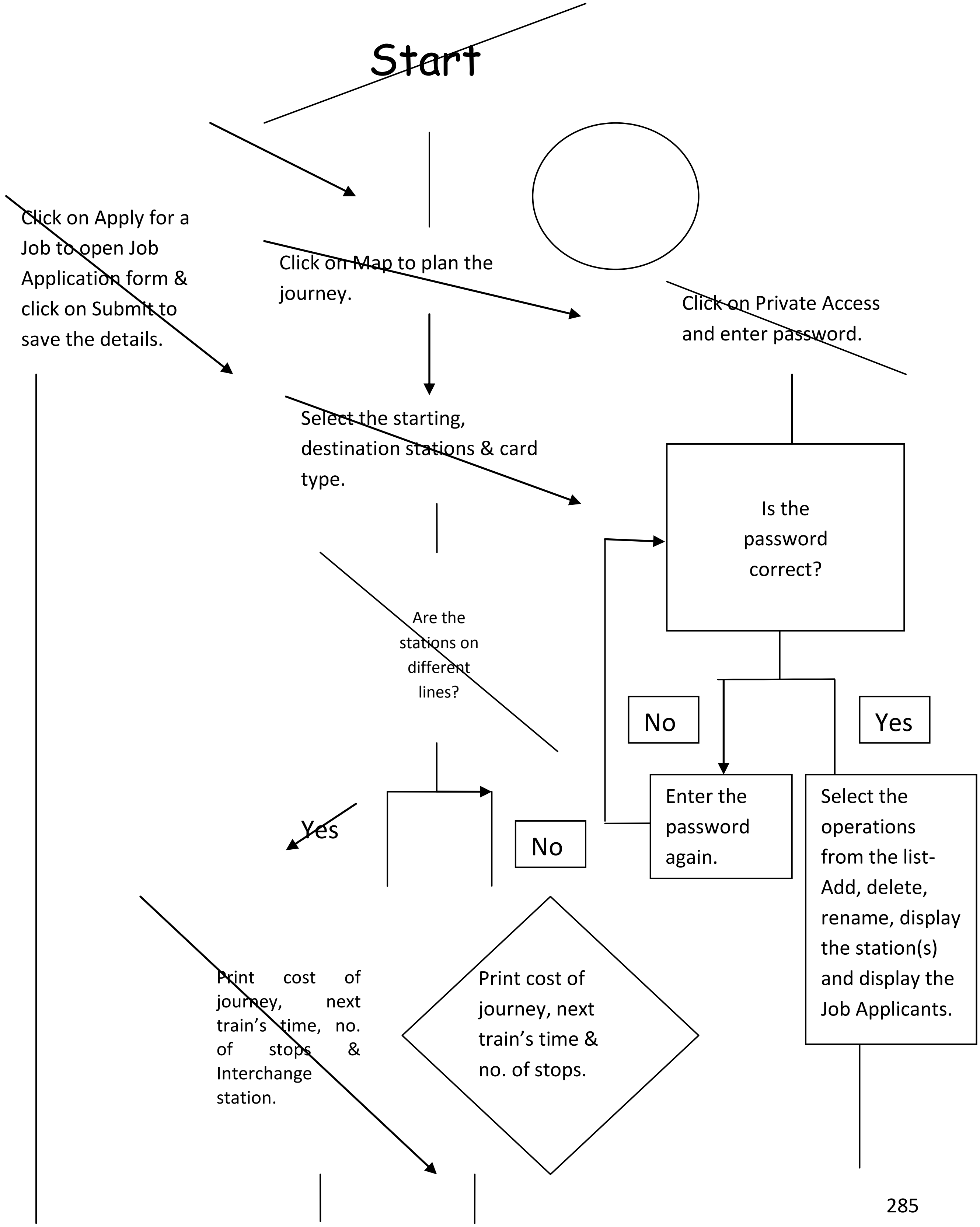
```
rootmain.option_add("*background","orange")

rootmain.configure(background='blue')

rootmain.title("WELCOME")

rootmain.geometry("615x540")

app=Applicationmain(rootmain)

app.grid()

rootmain.mainloop()
```

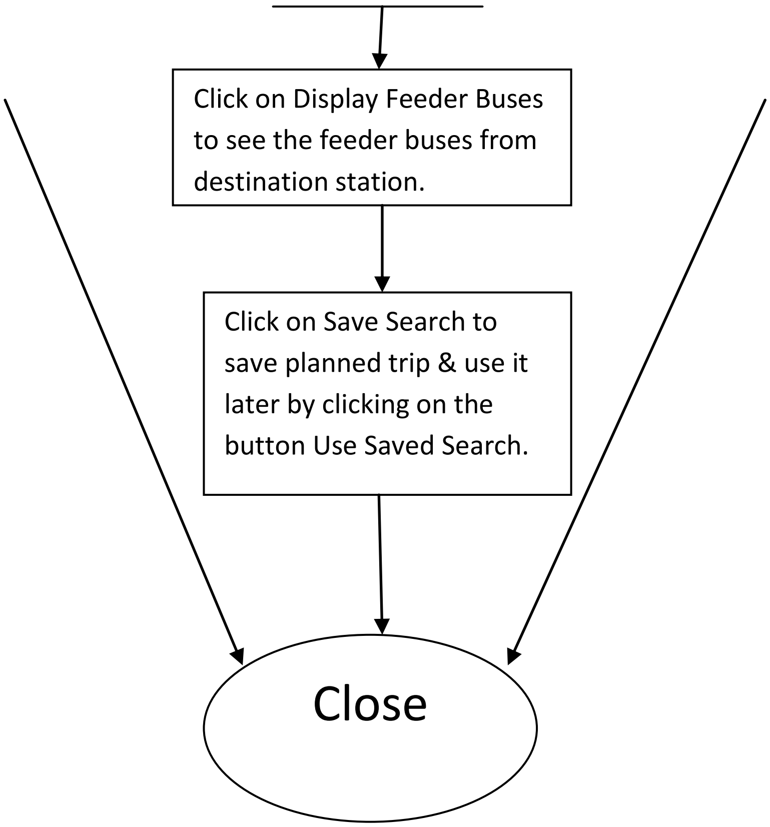
Algorithm

- **Click continue on the GUI that opens when the program is being run.**
- **Select the starting & destination station from the respective Drop Down Menu's, Card type from the options.**
- **Check for stations in the 4 zones from the lists.**
- **According to the card type and zones calculate the cost.**
- **From the list of stations calculate the number of stations & interchange station (when stations are on different lines).**
- **Print the cost, next train's time & number of stations and interchange station (when required).**
- **When the Display Feeder Buses button is clicked, feeder buses from destination are displayed in a new GUI.**
- **When the Save Search button is clicked the Trip planned is saved and is displayed when the Use My Saved Search button is used.**
- **When Apply for a Job button is clicked a Job Application form opens and the details entered by the Applicant is saved in a binary file in form of Dictionary with a Application number.**

- **When Private Access button is clicked a GUI opens and asks for password, when correct password is entered and submitted a new GUI opens which has the options of Renaming a Station, Adding a Station, Deleting a Station, Displaying the list of Stations, Restoring the original list of Stations & Displaying the Job Applications.**
- **When Close button is clicked it closes the whole program.**

Flow Chart


Start
Click on Apply for a Job to open Job Application form & click on Submit to save the details.
Click on Map to plan the journey.
Click on Private Access and enter password.
Select the starting, destination stations & card type.
Is the password correct?
Are the stations on different lines?
No
Yes
Enter the password again.
Select the operations from the list- Add, delete, rename, display the station(s) and display the Job Applicants.
Yes
No
Print cost of journey, next train's time, no. of stops & Interchange station.
Print cost of journey, next train's time & no. of stops.



Click on Display Feeder Buses to see the feeder buses from destination station.

Click on Save Search to save planned trip & use it later by clicking on the button Use Saved Search.

Bugs Encountered

Initially there was error when starting station was Burjuman and destination station was Union Square and vice versa.

This bug was fixed by placing a separate if statement when starting stations were Burjuman or Union Square and destination stations was Union Square or Burjuman.

In IDLE, feeder buses were also printed but there was an error when the program was changed to GUI. So, a separate a GUI was created to display the Feeder Buses.

Future Modifications

First the program was coded to be executed in IDLE but latter on changes were made to run in directly GUI.

Dimensions of the Application Frame were changed according to need.

In future, we want to link the Job Application form to Outlook so that the Applicants details are directly sent to the RTA's email.

Bibliography

- ❖Google Images
- ❖YouTube(Channel–Investary)
- ❖Dubai Metro Site
- ❖Stack Overflow