

Module 9 Example : Integrated example

A college stores the full name (first name and surname) of their students in a text file. It uses the full name to create a student code for each student.

- Create a code for the menu:

Menu

- 1 Create StudentNames File & Add data to file
- 2 Display contents of text file
- 3 Determine Student Code

- Option 1

Create code to store the names of six students in a text file **StudentNames.txt** and add the following names to the textfile:

Hannie Pretorius
 Nikita Singh
 Yang Chi
 Siphon Ntuli
 Ge Richard

- Option 2

Display the contents of the text file

- Option 3

For each student, read the full name from the textfile and construct a SIX character student code as follows:

- Convert the student's full name to uppercase;
- Call a function **surname()** to extract the first letter and the next two **consonants** (not vowels) of the student's surname; Xs are added if there are not enough consonants to make up the necessary or required number of characters;
N.B. Vowels are a, e, i, o and u ; the other 21 letters are consonants.
- Call a function **firstname()**, to extract the first three letters of the student's first name; Xs are added if there are not enough letters to make up the necessary or required number of characters
- Display the student code

Python Program

```
def surname():
    global lline, sname
    x=lline.find(" ")
```



```

ct=0
sname = lline[x+1]
for i in range(x+2,len(lline)-1):
    if not(lline[i] in ["A","E","I","O","U"]):
        sname = sname + lline[i]
        ct=ct+1
        if ct>=2:
            break
if len(sname)==1:
    sname="XX"
else:
    if len(sname)==2:
        sname=sname+"X"

def firstname():
    global fname,lline
    fname=""
    for i in range(0,3):
        if lline[i]!=" ":
            fname=fname+lline[i]
    if len(fname) == 1:
        fname = "XX"
    else:
        if len(fname) == 2:
            fname = fname + "X"

#main program
sname=""
fname=""
lline=""
print("Menu")
print("1 Create StudentNames File & Add data to file")
print("2 Display contents of text file")
print("3 Determine Student Code")
print()
choice=int(input("Enter choice: "))
if choice==1:
    #create a text file
    fStudentNames=open("StudentNames.txt","w")
    fStudentNames.write("Hannie Pretorius+"\n")
    fStudentNames.write("Nikita Singh+"\n")
    fStudentNames.write("Yang Chi+"\n")
    fStudentNames.write("Sipho Ntuli+"\n")
    fStudentNames.write("Ge Ricard+"\n")
    fStudentNames.close()
elif choice==2:
    try:
        fStudentNames = open("StudentNames.txt", "r")
        contents=fStudentNames.read()
        print(contents)
        fStudentNames.close()
    except FileNotFoundError:
        print("File not found")
elif choice==3:
    # Data read from a text file
    print()
    try:

```



```
fStudentNames = open("StudentNames.txt", "rt")
for line in fStudentNames:
    lline=line.upper()
    surname()
    firstname()
    code=sname+fname
    print(lline,end="")
    print(code)
fStudentNames.close()
except FileNotFoundError:
    print("File not found")
```

Output

HANNIE PRETORIUS
PRTHAN

NIKITA SINGH
SNGNIK

YANG CHI
CHXYAN

SIPHO NTULI
NTLSIP

GE RICARD
RCRGEX

