ANSWERS TO PRACTICE QUESTIONS – BINARY FILES

> **ab** mode so we add to existing contents of the file and not delete old contents.

1.
```python
import pickle
def write_to_file():
    file = open('salesman.dat',"ab")
    sno=int(input("Enter Salesman number:"))
    name=input("Enter Salesman name")
    samt=float(input("Enter Sale amount:"))
    comm=10/100*samt
    salesman=[sno,name,samt,comm]
    pickle.dump(salesman,file)
    file.close()
```

2.
```python
import pickle
def read_from_file():
    file = open('student.dat', 'rb')
    try:
        while True:
            stud=pickle.load(file)
            print(stud)
    except EOFError:
        pass
    file.close()
```

3.
```python
import pickle
def copy():
    fin = open("item.dat", 'rb')
    fout = open('electronics.dat',"wb")
    try:
        while True:
            itno= pickle.load(fin)
            itname=pickle.load(fin)
            cat=pickle.load(fin)
            price=pickle.load(fin)
            if cat.upper()=="ELECTRONICS":
                pickle.dump(itno,fout)
                pickle.dump(itname,fout)
                price=price-10/100*price
                pickle.dump(price,fout)
    except EOFError:
        pass
    fin.close()
    fout.close()
```

> Reducing the price by 10% before copying it

4.
```python
import pickle
def search():
    fin = open("sports.dat", 'rb')
    try:
        while True:
            Pid= pickle.load(fin)
            Pname=pickle.load(fin)
            Evtname=pickle.load(fin)
            if Evtname.upper()=="ATHLETICS":
                print(Pid,Pname,Evtname)
    except EOFError:
        pass
    fin.close()
```

5.
```python
import os,pickle
def modification():
    fin=open("flight.dat","rb")
    fout=open("temp.dat","wb")
    try:
        while True:
            flight=pickle.load(fin)
            if flight["Destination"].upper()=="MUMBAI":
                flight["Price"] += 5/100*flight["Price"]
            elif flight["Destination"].upper()=="DELHI":
                flight["Price"] += 7/100*flight["Price"]
            pickle.dump(flight,fout)
    except EOFError:
        pass
    fin.close()
    fout.close()
    os.remove("flight.dat")
    os.rename("temp.dat","flight.dat")
```

6.
```python
import pickle
def declare_winner():
    fin = open('election.dat', 'rb')
    highest=0          # This variable will store the highest votes received by a candidate, initially 0
    name=""            # This variable will store the name of the candidate with highest votes, initially empty
    try:
        while True:
            vote= pickle.load(fin)
            if vote[3]>highest:    # If any candidate has votes greater than the value of the highest variable, then we update the variables highest and name to store the details of the current candidate.
                highest=vote[3]
                name=vote[1]
    except EOFError:
        pass
    fin.close()
    print("The candidate with the highest vote is",name)
    print("The no. of votes=",highest)
```

7.
```python
import os,pickle
def insert(newe):
    fin=open("emp.dat","rb")
    fout=open("temp.dat","wb")
    x=0
    try:
        while True:
            e=pickle.load(fin)
            if e[3] > newe[3] and x==0:
                pickle.dump(newe,fout)
                x=1
            pickle.dump(e,fout)

    except EOFError:
        if x==0:
            pickle.dump(newe,fout)
    fin.close()
    fout.close()
    os.remove("emp.dat")
    os.rename("temp.dat","emp.dat")
```

newe variable holds the record of the new employee to be inserted into the file

This variable changes to 1 when the new record has been added to the file

When we come across the first record whose salary is more than the salary of the new employee, then we add the new employee record to the file. In all other cases we transfer the records of the file original file to the temp file.

In case all the records in the file have a lower salary than the new one then we add the new one at the end.

8.
```python
import os,pickle
def deletion():
    fin = open('media.dat', 'rb')
    fout=open("temp.dat","wb")
    try:
        while True:
            e= pickle.load(fin)
            if e["Age"]<=50:
                pickle.dump(e,fout)

    except EOFError:
            pass
    fin.close()
    fout.close()
    os.remove("media.dat")
    os.rename("temp.dat","media.dat")
```