SET	A

INDIAN SCHOOL MUSCAT
FINAL EXAMINATION 2022
COMPUTER SCIENCE (083)

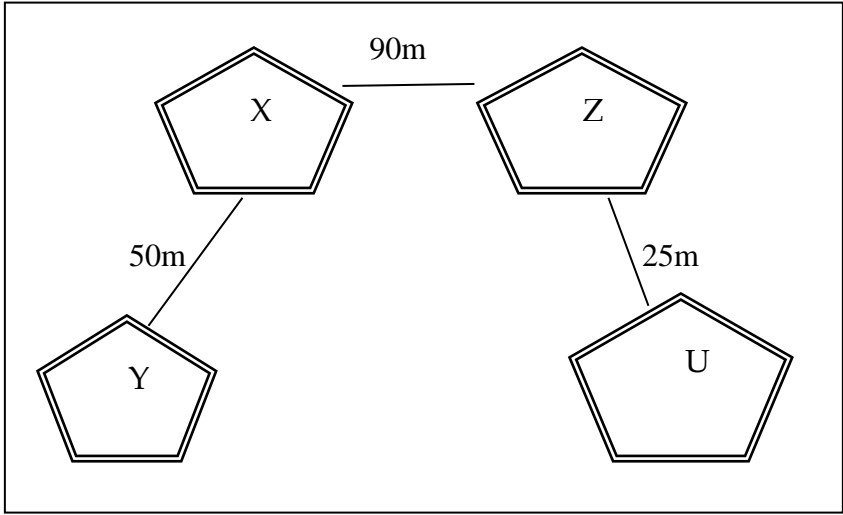CLASS:XII   Max.Marks: 70

SET	QN.NO	VALUE POINTS	MARKS SPLIT UP
		MARKING SCHEME	
A		**SECTION A**	
	1	True	1
	2	(d) /	1
	3	(b) dictionary_name[key]=value	1
	4	(b) False	1
	5	(c) read mode	1
	6	(a) ['H', 'E', 'L#L#O']	1
	7	(c) update	1
	8	(a) Desc	1
	9	(b) tup1[2] = 20	1
	10	(a) Only 1	1
	11	(a) 0	1
	12	(c) DROP	1
	13	(d) None	1
	14	(a) 17	1
	15	(b) avg( )	1
	16	(b) fetchone( )	1

17	(a) Both A and R are true and R is the correct explanation for A	1
18	(b) Both A and R are true and R is not the correct explanation for A	1
	SECTION B	
| 19 | ```
def game( ):
    Moves=[11, 22, 33, 44] #  Error 1
    Queen=Moves
    Moves[2]+=22
    L=len(Moves)
    for i in range (L): #  Error 2
        print ("Now@", Queen[L-i-1],"#", Moves [i]) #  Error 3
game()#  Error 4
```<br><br>(½ Mark for each correct correction made and underlined.) | 2 |
20	Correct difference between actual and formal parameter(s) (1 Mark) Example (1 Mark) **OR** utility of default arguments . (1 Mark) Example (1 Mark)	2

21	(a) Output:
	    Pygram (1 Mark)
	
	(b) Output:
	   {'b': 'a', 'c': 3, 'd': 4} (1 Mark)
		2

22	Candidate Keys explanation. (1 Mark) Example of Candidate Keys (1 Mark)	2
23	(a) advantage of with statement. (1 Mark) (b) significance of the tell() method?. (1 Mark)	2
24	WHERE clause is used to select particular rows that satisfy a condition whereas HAVING clause is used in connection with the aggregate function, GROUP BY clause. − correct difference (2 Marks) **OR** Correct difference between equi-join and natural join? (1 Mark) Example. (1 Mark)	2
25	Output : IP,HIND,CS,Math,Chem,Phys, (2 Marks) **OR** Output: [11, 10, 9, 8, 7, 4] (2 Marks)	2
	SECTION C	

	26	(a) foreign key- A foreign key is used to set or represent a relationship between two relations (or tables) in a database. Its value is derived from the primary key attribute of another relation. (1 Mark)
		
		(b) Output:
		
		    (i) DEPARTMENT COUNT(*) (½ Mark)
		          ------------------------------------ 	
		              ENT 3
		
		    (ii) SUM(CHARGES) (½ Mark)
		          --------------------- 	
		            1450
		
		    (iii) NAME CHARGES (½ Mark)
		          ---------------------------- 	
		          Ankita 800
		
		    (iv) DNO NAME (½ Mark)
		          ------------------- 	
		          D101 Ankita
		          D103 Sameer
		          D106 Arun
			3

	27	(½ Mark for correctly opening and closing the file 2 Marks for correct logic ½ Mark for displaying the correct output) **OR** (½ Mark for correctly opening and closing the file 2 Marks for correct logic ½ Mark for displaying the correct output)	3

	28	(i) SELECT * FROM MEMBER ORDER BY ISSUEDATE DESC;
		    (ii) SELECT BOOK.CODE,BNAME,MNAME
		         FROM BOOK, MEMBER WHERE
		         BOOK.CODE=MEMBER.CODE AND QTY>10;
		    (iii)SELECT TYPE,COUNT(*) FROM BOOK GROUP BY TYPE;
		
		          (1 Mark for each query)
			3

	29	(½ mark for correct function definition 2 Marks for correct logic ½ mark for displaying the correct output)	3

	30	# (first option)
		M = [90,45,79,84,92,60,59,95,35,88]
		def PUSH(S,M): (1 Mark for PUSH)
		  S.append(M)
		def POP(S): (1 Mark for POP)
		  if S!=[]:
		    return S.pop()
			3

```
        else:
            return None
ST=[]
for k in M:
    if k>80:
        PUSH(ST,k)
while True:
    if ST!=[]:                    (1 Mark for correct function calls & display)
        print(POP(ST),end=" ")
    else:
        break
```

OR

```
# second option
N = [16, 91, 52, 43, 2, 65, 23, 87, 18, 15 ]
def PUSH(S,N):                         (1 Mark for PUSH)
    S.append(N)
def POP(S):                            (1 Mark for POP)
    if S!=[]:
        return S.pop()
    else:
        return None
ST=[]
for k in N:
    if k%2!=0:
        PUSH(ST,k)
while True:                    (1 Mark for correct function calls & display)
    if ST!=[]:
        print(POP(ST),end=" ")
    else:
        break
```

SECTION D

	31	(i) Layout: (Bus Topology)	5

Total cable length = 165 m may be considered as cable length is short.

(1 Mark for the correct layout)

		(ii) The most suitable place to house the server is the Z building. In the Z building we have the maximum number of computers installed (150 no's), so as per the 80 - 20 network design rule the server should be placed in that building where the network traffic is maximum localized which reduces the cabling cost and increases the efficiency. (1 Mark)
		
		(iii)
		    a. Repeater is needed in bus layout between X and Z building because according to this layout the distance between buildings X and Z is 90mts. (½ Mark)
		    b. Switch is to be installed in each building as it gives connectivity to all computers in the network with dedicated band width. (½ Mark)
		
		(iv)The most economical way to connect it with reasonable high speed would be radio wave transmission, as they are easy to install, can travel long distances and penetrate buildings easily.
		           (1 Mark for correct explanation)
		(v) LAN (½ Mark) – reason - (½ Mark)	

	32	Statement 1: import mysql.connector as mys Statement 2: con1=mys.connect(host="localhost",user="root",password="tiger",database ="bookstore") Statement 3: con1.cursor() Statement 4: mycursor.execute(querry) Statement 5: con1.commit() (1 mark for each correct answer) **OR** Statement 1: import mysql.connector as mys Statement 2: con1=mys.connect(host="localhost",user="root",password="tiger",database ="bookstore") Statement 3: con1.cursor() Statement 4: mycursor.execute("select * from books where price>1000") Statement 5: mycursor.fetchall() (1 mark for each correct answer)	5

	33	(1 mark for difference between csv and binary file ½ mark for importing csv module 1½ marks each for correct definition of ADDREC() and COUNTREC() ½ mark for function call statements) **OR** (1 mark for difference between binary and text file ½ mark for importing csv module 1½ marks each for correct definition of addrec() and searchrec() ½ mark for function call statements)	5
		SECTION E	

	34	(i) New Degree: 6 (½ mark)
		         New Cardinality: 2 (½ mark)
		
		(ii) PNO (½ mark) and (½ mark for justification)
		
		(iii)
		  a. INSERT INTO PRODUCT VALUES (115, 'Box',70, 'ABC');
		  b. UPDATE PRODUCT SET QTY=QTY- (QTY*0.05) WHERE Pname LIKE "P%";
		  (1 mark for each correct statement)
		               OR (Option for part iii only)
		
		(iii)
		 a. DELETE FROM PRODUCT WHERE MANUFACTURER='ABC';
		 b. ALTER TABLE PRODUCT
		   ADD (PRICE DECIMAL(10,2));
		  (1 mark for each correct statement)
			4

	35	(i) pickle (1 Mark) (ii) dump(mydata,f1) (1 Mark) (iii) open("Personal.dat","rb") (1 Mark) (iv) pickle.load(f2) (1 Mark)	4

CLASS:XII   Max.Marks: 70

SET	B

SET	QN.NO	VALUE POINTS	MARKS SPLIT UP
B		**SECTION A**	
	1	(b) fetchone( )	1
	2	(b) avg( )	1
	3	(b) 36	1
	4	(d) None	1
	5	(c) DROP	1
	6	(a) 0	1
	7	(a) Only 1	1
	8	(b) tup1[2] = 20	1
	9	(a) Desc	1
	10	(c) update	1
	11	(c) read mode	1
	12	(c) ['T', 'N', 'D#I#A']	1
	13	(a) True	1
	14	(b) dictionary_name[key]=value	1
	15	(d) /	1

	16	True	1
	17	(b) Both A and R are true and R is not the correct explanation for A	1
	18	(a) Both A and R are true and R is the correct explanation for A	1
		SECTION B	

	19	def game( ):
		   Moves=[11, 22, 33, 44] # Error 1
		   Queen=Moves
		   Moves[2]+=22
		   L=len(Moves)
		   for i in range (L): # Error 2
		     print ("Now@", Queen[L-i-1],"#", Moves [i]) # Error 3
		game()# Error 4
		
		(½ Mark for each correct correction made and underlined.)
			2

	20	Correct difference between actual and formal parameter(s) (1 Mark) Example (1 Mark) **OR** utility of keyword arguments . (1 Mark) Example (1 Mark)	2

	21	(c) Output:
		    inExamin (1 Mark)
		
		(d) Output:
		   {4: 'Four', 2: 'Two', 1: 'One', 3: 'Three'} (1 Mark)
			2

	22	Candidate Keys explanation. (1 Mark) Example of Candidate Keys (1 Mark)	2
	23	(c) advantage of with statement. (1 Mark) (d) significance of the tell() method?. (1 Mark)	2
	24	Correct difference between GROUP BY clause and ORDER BY clause – correct difference (2 Marks) **OR** Correct difference between cross join and equi join. (1 Mark) Example. (1 Mark)	2
	25	Output : One,Two,Thre,Ten,Hund,Thou, (2 Marks) **OR** Output: [11, 10, 9, 8, 7, 4] (2 Marks)	2

		SECTION C	

	26	(b) foreign key- A foreign key is used to set or represent a relationship between two relations (or tables) in a database. Its value is derived from the primary key attribute of another relation. (1 Mark)
		
		(b) Output:
		
		   (v) DEPARTMENT COUNT(*) (½ Mark)
		       ------------------------------------- 	
		            ENT 3
		
		   (vi) SUM(CHARGES) (½ Mark)
		       --------------------- 	
		          950
		
		   (vii) NAME CHARGES (½ Mark)
		       ---------------------------- 	
		       Arun 500
		
		   (viii) DNO NAME (½ Mark)
		       ------------------- 	
		       D101 Ankita
		       D103 Sameer
		       D106 Arun
			3

	27	(½ Mark for correctly opening and closing the file 2 Marks for correct logic ½ Mark for displaying the correct output) **OR** (½ Mark for correctly opening and closing the file 2 Marks for correct logic ½ Mark for displaying the correct output)	3

	28	(iv)SELECT * FROM MEMBER ORDER BY ISSUEDATE ASC;
		   (v) SELECT BOOK.CODE,BNAME,MNAME
		        FROM BOOK, MEMBER WHERE
		        BOOK.CODE=MEMBER.CODE AND QTY<30;
		   (vi)SELECT TYPE,COUNT(*) FROM BOOK GROUP BY TYPE;
		
		       (1 Mark for each query)
			3

	29	(½ mark for correct function definition 2 Marks for correct logic ½ mark for displaying the correct output)	3
	30	# (first option) M = [90,45,79,84,92,60,59,95,35,88] def PUSH(S,M): (1 Mark for PUSH) S.append(M)	3

```
def POP(S):                                    (1 Mark for POP)
  if S!=[]:
    return S.pop()
  else:
    return None
ST=[]
for k in M:
  if k>80:
    PUSH(ST,k)
while True:
  if ST!=[]:              (1 Mark for correct function calls & display)
    print(POP(ST),end=" ")
  else:
    break
```

OR

```
# second option
N = [16, 91, 52, 43, 2, 65, 23, 87, 18, 15 ]
def PUSH(S,N):                                 (1 Mark for PUSH)
  S.append(N)
def POP(S):                                    (1 Mark for POP)
  if S!=[]:
    return S.pop()
  else:
    return None
ST=[]
for k in N:
  if k%2!=0:
    PUSH(ST,k)
while True:                     (1 Mark for correct function calls & display)
  if ST!=[]:
    print(POP(ST),end=" ")
  else:
    break
```

SECTION D

| | 31 | (i) Layout: (Bus Topology) | 5 |

Total cable length = 165 m may be considered as cable length is short.
                (1 Mark for the correct layout)

(ii) The most suitable place to house the server is the Z building. In the Z building we have the maximum number of computers installed (150 no's), so as per the 80 - 20 network design rule the server should be placed in that building where the network traffic is maximum localized which reduces the cabling cost and increases the efficiency. (1 Mark)

 (vi)
   c. Repeater is needed in bus layout between X and Z building because according to this layout the distance between buildings X and Z is 90mts. (½ Mark)
   d. Switch is to be installed in each building as it gives connectivity to all computers in the network with dedicated band width.
 (½ Mark)

 (vii) The most economical way to connect it with reasonable high speed would be radio wave transmission, as they are easy to install, can travel long distances and penetrate buildings easily.
                (1 Mark for correct explanation)
 (viii)   LAN- (½ Mark) reason- (½ Mark)

| 32 | Statement 1:
import mysql.connector as mys

Statement 2:
con1=mys.connect(host="localhost",user="root",password="tiger",database="bookstore")

Statement 3:
con1.cursor()

Statement 4:
mycursor.execute(querry)

Statement 5:
con1.commit()
 (1 mark for each correct answer)
OR

Statement 1:
import mysql.connector as mys

Statement 2:
con1=mys.connect(host="localhost",user="root",password="tiger",database="bookstore")

Statement 3:
con1.cursor() | 5 |

		Statement 4: mycursor.execute("select * from books where price>1000") Statement 5: mycursor.fetchall() (1 mark for each correct answer)	
	33	(1 mark for difference between csv and text file ½ mark for importing csv module 1½ marks each for correct definition of ADDREC() and COUNTREC() ½ mark for function call statements) **OR** (1 mark for difference between binary and text file ½ mark for importing csv module 1½ marks each for correct definition of addrec() and searchrec() ½ mark for function call statements)	5
		SECTION E	

	34	(j) New Degree: 7 (½ mark)
		    New Cardinality: 3 (½ mark)
		
		(iv) Rollno (½ mark) and (½ mark for justification)
		
		(v)
		   a. INSERT INTO APLICANTS VALUES (15, 'Arun','M', 6000);
		   b. UPDATE APPLICANTS SET FEE=FEE+ (FEE*0.10) WHERE
		   Name LIKE "J%";
		   (1 mark for each correct statement)
		          OR (Option for part iii only)
		
		(iii)
		 a. DELETE FROM APPLICANTS WHERE FEE<3000;
		 b. ALTER TABLE APPLICANTS
		    ADD (EMAIL VARCHAR(30));
			4

	35	(ii) pickle (1 Mark) (ii) dump(mydata,f1) (1 Mark) (v) open("Info.dat","rb") (1 Mark) (vi) pickle.load(f2) (1 Mark)	4

INDIAN SCHOOL MUSCAT
FINAL EXAMINATION 2022
COMPUTER SCIENCE (083)

CLASS:XII   Max.Marks: 70

SET	C

MARKING SCHEME			
SET	QN.NO	VALUE POINTS	MARKS SPLIT UP
C		**SECTION A**	
	1	(b) tup1[2] = 20	1
	2	(a) Only 1	1
	3	(a) 0	1
	4	(c) DROP	1
	5	(b)Tuple	1
	6	(c) 6	1
	7	(b) avg( )	1
	8	(b) fetchone( )	1
	9	True	1
	10	(d) /	1
	11	(b) dictionary_name[key]=value	1
	12	(b) False	1
	13	(b) ['P', 'Y', 'T', 'H@O@N']	1
	14	(c) read mode	1

15	(c) update	1
16	(a) Desc	1
17	(a) Both A and R are true and R is the correct explanation for A	1
18	(b) Both A and R are true and R is not the correct explanation for A	1
	SECTION B	

19	def game( ):
	　　Moves=[11, 22, 33, 44] # Error 1
	　　Queen=Moves
	　　Moves[2]+=22
	　　L=len(Moves)
	　　for i in range (L): # Error 2
	　　　print ("Now@", Queen[L-i-1],"#", Moves [i]) # Error 3
	game()# Error 4
	
	(½ Mark for each correct correction made and underlined.)
		2

20	Correct difference between actual and formal parameter(s) (1 Mark) Example (1 Mark) **OR** utility of default arguments . (1 Mark) Example (1 Mark)	2
21	(e) Output: 　　CoSci (1 Mark) (f) Output: 　{'q': 'p', 'r': 22, 's': 33} (1 Mark)	2
22	Candidate Keys explanation. (1 Mark) Example of Candidate Keys (1 Mark)	2
23	(e) advantage of with statement. (1 Mark) (f) significance of the tell() method?. (1 Mark)	2
24	Correct difference between char(n) and varchar(n). (2 Marks) **OR** Correct difference between cross join and natural join. (1 Mark) Example. (1 Mark)	2
25	Output : BLUE,YELL,GREE,BLAC,RED,WHIT, (2 Marks) **OR** Output: [11, 10, 9, 8, 7, 4] (2 Marks)	2

		SECTION C	

	26	(c) foreign key- A foreign key is used to set or represent a relationship between two relations (or tables) in a database. Its value is derived from the primary key attribute of another relation. (1 Mark)
		(b) Output:
		
		    (ix) DEPARTMENT COUNT(*) (½ Mark)
		        ------------------------------------ 	
		            ENT 3
		
		    (x) MAX(CHARGES) (½ Mark)
		        --------------------- 	
		          500
		
		    (xi) NAME CHARGES (½ Mark)
		        ---------------------------- 	
		        Ankita 800
		
		    (xii) DNO NAME (½ Mark)
		        ------------------- 	
		        D101 Ankita
		        D103 Sameer
		        D106 Arun
			3

	27	(½ Mark for correctly opening and closing the file 2 Marks for correct logic ½ Mark for displaying the correct output) **OR** (½ Mark for correctly opening and closing the file 2 Marks for correct logic ½ Mark for displaying the correct output)	3

	28	(vii) SELECT * FROM MEMBER ORDER BY ISSUEDATE DESC;
		    (viii) SELECT BOOK.CODE,BNAME,MNAME
		            FROM BOOK, MEMBER WHERE
		            BOOK.CODE=MEMBER.CODE AND QTY>20;
		    (ix)SELECT TYPE,COUNT(*) FROM BOOK GROUP BY TYPE;
		
		            (1 Mark for each query)
			3

	29	(½ mark for correct function definition 2 Marks for correct logic ½ mark for displaying the correct output)	3
	30	# (first option) M = [90,45,79,84,92,60,59,95,35,88] def PUSH(S,M): (1 Mark for PUSH) S.append(M) def POP(S): (1 Mark for POP)	3

```
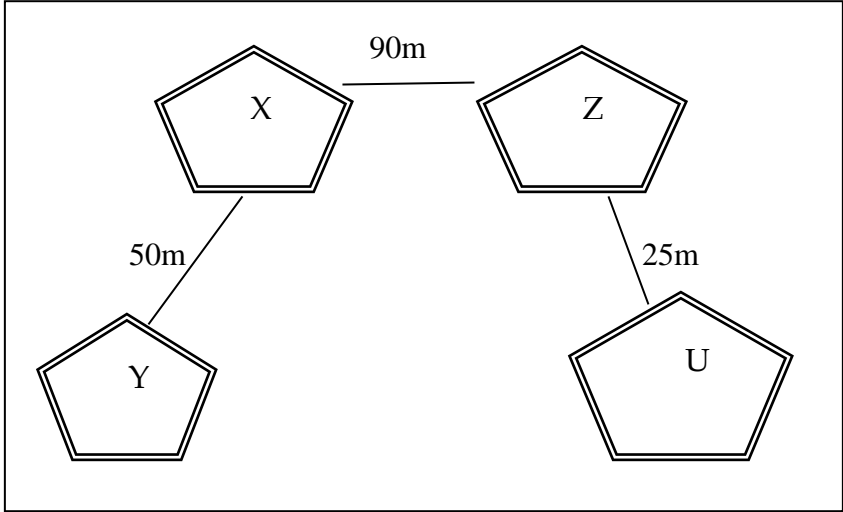          if S!=[]:
             return S.pop()
          else:
             return None
ST=[]
for k in M:
   if k>80:
      PUSH(ST,k)
while True:
   if ST!=[]:                    (1 Mark for correct function calls & display)
      print(POP(ST),end=" ")
   else:
      break
```

<div align="center">

OR

</div>

```
# second option
N = [16, 91, 52, 43, 2, 65, 23, 87, 18, 15 ]
def PUSH(S,N):                        (1 Mark for PUSH)
   S.append(N)
def POP(S):                           (1 Mark for POP)
   if S!=[]:
      return S.pop()
   else:
      return None
ST=[]
for k in N:
   if k%2!=0:
      PUSH(ST,k)
while True:                    (1 Mark for correct function calls & display)
   if ST!=[]:
      print(POP(ST),end=" ")
   else:
      break
```

<div align="center">

SECTION D

</div>

	31	(i) Layout: (Bus Topology)	5

		Total cable length = 165 m may be considered as cable length is short.
		(1 Mark for the correct layout)
		
		(ii) The most suitable place to house the server is the Z building. In the Z building we have the maximum number of computers installed (150 no's), so as per the 80 - 20 network design rule the server should be placed in that building where the network traffic is maximum localized which reduces the cabling cost and increases the efficiency. (1 Mark)
		
		(ix)
		    e. Repeater is needed in bus layout between X and Z building because according to this layout the distance between buildings X and Z is 90mts. (½ Mark)
		    f. Switch is to be installed in each building as it gives connectivity to all computers in the network with dedicated band width.
		      (½ Mark)
		
		(x) The most economical way to connect it with reasonable high speed would be radio wave transmission, as they are easy to install, can travel long distances and penetrate buildings easily.
		        (1 Mark for correct explanation)
		(xi)LAN-(½ Mark) reason - (½ Mark)	

	32	Statement 1: import mysql.connector as mys Statement 2: con1=mys.connect(host="localhost",user="root",password="tiger",database="bookstore") Statement 3: con1.cursor() Statement 4: mycursor.execute(querry) Statement 5: con1.commit() (1 mark for each correct answer) OR Statement 1: import mysql.connector as mys Statement 2: con1=mys.connect(host="localhost",user="root",password="tiger",database="bookstore") Statement 3: con1.cursor() Statement 4: mycursor.execute("select * from books where price>1000")	5

		Statement 5: mycursor.fetchall() (1 mark for each correct answer)	
	33	(1 mark for difference between csv and text file ½ mark for importing csv module 1½ marks each for correct definition of ADDREC() and COUNTREC() ½ mark for function call statements) **OR** (1 mark for difference between binary and text file ½ mark for importing csv module 1½ marks each for correct definition of addrec() and searchrec() ½ mark for function call statements)	5
		SECTION E	

	34	(k) New Degree: 2 (½ mark)
		       New Cardinality: 7 (½ mark)
		
		(vi) Code (½ mark) and (½ mark for justification)
		
		(vii)
		   a. INSERT INTO ITEMS VALUES (1007, 'Mother Board',10,5000);
		   b. UPDATE ITEMS SET Price=Price- (Price*0.10) WHERE Iname
		   LIKE "M%";
		   (1 mark for each correct statement)
		 OR (Option for part iii only)
		(iii)
		 a. DELETE FROM ITEMS WHERE PRICE>2000;
		 b. ALTER TABLE ITEMS DROP QTY;
		   (1 mark for each correct statement)
			4

	35	(iii) pickle (1 Mark) (ii) dump(mydata,f1) (1 Mark) (vii) open("details.dat","rb") (1 Mark) (viii) pickle.load(f2) (1 Mark)	4