

SET -1

1. Write a menu driven python program using separate user defined functions to Implement following operations in stack using list

> To insert the numbers in the stack

> To delete the numbers from stack.

> To display the status of stack

2. Consider the following table.

TABLE: FLIGHTS

FL_NO	STARTPLACE	ENDPLACE	NO_FLIGHTS	NO_STOPS
IC301	MUMBAI	DELHI	8	0
IC799	BANGALORE	DELHI	2	1
MC101	INDORE	MUMBAI	3	0
IC302	DELHI	MUMBAI	8	0
AM812	KANPUR	BANGALORE	3	1

A. Write the SQL commands for the following:

- i. To display the contents of the table FLIGHTS in the descending order of FL_NO.
- ii. To increase the number of flights by one whose ENDPLACE is Delhi
- iii. To remove the details of the flights having number of stops as 0.

B. Write the output of the following:

- (i) Select ENDPLACE , COUNT(*) from FLIGHTS group by ENDPLACE;
- (ii) Select STARTPLACE from FLIGHTS where NO_STOPS=1;

```

1.
def isempty(stack):
    if stack==[]:
        return True
    else :
        return False
def push(stack,item):
    stack.append(item)
    top=len(stack)-1
def pop(stack):
    if isempty(stack):
        return "underflow"
    else:
        item=stack.pop()
        if len(stack)==0:
            top=None
        else:
            top=len(stack)-1
        return item
def peek(stack):
    if isempty(stack):
        return "underflow"
    else:
        top=len(stack)-1
        return(stack[top])
def display(stack):
    if isempty(stack):
        print("Stack empty")
    else:
        top=len(stack)-1
        print(stack[top])
        for a in range (top-1,-1,-1):
            print(stack[a],end=" ")

#---main
st=[]
top=None
while True:
    print("STACK OPERATIONS")
    print("1---push")
    print("2---pop")
    print("3---peek")
    print("4--display stack")
    print("5--exit")
    ch=int(input("enter your choice"))
    if ch==1:
        item=int(input("enter item"))
        push(st,item)
    elif ch==2:
        item=pop(st)
        if item=="underflow":
            print("stack is empty")
        else:
            print("deleted item is",item)
    elif ch==3:
        item=peek(st)
        if item=="underflow":
            print("stack is empty")
        else:
            print("topmost item is",item)
    elif ch==4:

```

```
        display(st)
    elif ch==5:
        break
    else:
        print("invalid choice")'''
```

2.

- A.(i) SELECT * FROM FLIGHTS
ORDER BY FL_NO DESC;
- (ii) UPDATE FLIGHTS
SET NO_FLIGHTS=NO_FLIGHTS + 1
WHERE ENDPLACE= "DELHI";
- (iii) DELETE FROM FLIGHTS
WHERE NO_STOPS=1;

- B. (i) ENDPLACE COUNT(*)
- | | |
|-----------|---|
| DELHI | 2 |
| MUMBAI | 2 |
| BANGALORE | 1 |
- (ii) STARTPLACE
- | |
|-----------|
| BANGALORE |
| KANPUR |

SET – 2

1. Write a Python program using separate user defined functions to Implement following operations in stack using dictionary

- > To create a Dictionary for n number of students with name as a key and marks as value
- > To insert the keys (name of the student) of the dictionary into a Stack, where the corresponding value (marks) is greater than 75.
- > To display the content of the stack.

2. Consider the following table:

TABLE: DOCTOR

ID	NAME	DEPT	GENDER	EXPERIENCE
101	John	ENT	M	12
104	Smith	ORTHOPEDIC	M	5
107	George	SKIN	M	10
114	Lara	SKIN	F	3
109	K George	ORTHOPEDIC	F	9

A. Write the SQL commands for the following:

- i. To display NAME of all doctors who are in “ORTHOPEDIC” having more than 10 years’ experience from the table DOCTOR.
- ii. To display all the information of female Doctor.
- iii. To remove the details of ENT doctors.

B Write the output of the following:

- (i) Select SUM(EXPERIENCE), GENDER from DOCTOR group by GENDER;
- (ii) Select Distinct DEPT from DOCTOR;

#STACK IMPLEMENTATION USING DICTIONARY

```
def push(S,N):

    S.append(N)

def pop(S):

    if S!=[]:

        return S.pop()

    else:

        return None

def create():

    n=int(input("Enter total number of element"))

    for a in range(n):

        name=input("enter name")

        marks=int(input("Enter the marks "))

        dic[name]=marks

    print("The dictionary created is")

    print(dic)

dic={ }

st=[]

create()

for k in dic:

    if dic[k]>=75:

        push(st,k)

print("The output of the above code is:")
```

```
while True:

    if st!=[]:

        print(pop(st), end=" ")

    else:

        break
```

- A.(i) SELECT NAME FROM DOCTOR
WHERE DEPT= "ORTHOPEDIC"
AND EXPERIENCE>10;
(ii) SELECT * FROM DOCTOR
WHERE GENDER= "F";
(iii) DELETE FROM DOCTOR
WHERE DEPT= "ENT";

- B. (i) SUM GENDER
27 M
12 F
(ii) DEPT
ENT
ORTHOPEDIC
SKIN

SET – 3

1. Write a Python program using separate user defined functions to Implement following operations in stack using list.

- > To input a list of numbers
- > To traverse the content of the list and insert even numbers into the stack
- > To display the content of the stack.

2. Consider the following table:

Table: Employees

Empid	Firstname	Lastname	Address	City
010	Ravi	Kumar	Raj nagar	GZB
105	Harry	Waltor	Gandhi nagar	GZB
152	Sam	Tones	33 Elm St.	Paris
215	Sarah	Ackerman	440 U.S. 110	Paris
300	Robert	Samuel	9 Fifth Cross	Paris

- A. Write the SQL commands for the following:

- (i) To show firstname, lastname, address of all employees, who all are in GZB city.
- (ii) To display the content of Employees table in descending order of Firstname.
- (iii) To remove the record having Empid as 215 .

- B. Write the output of the following:

- (i) Select count(*), City from Employees group by City;
- (ii) Select Firstname from Employees where Firstname like "S%";

```
def push(S,N):

    S.append(N)

def pop(S):

    if S!=[]:

        return S.pop()

    else:

        return None

def create():

    print("enter the number of elements in the list :")

    N=int(input())

    i=0

    while i<N:

        print("Enter individual element of the list")

        x=int(input())

        lst.append(x)

        i=i+1

    print("The created list is:")

    print(lst)

lst=[]

st=[]

create()

for k in lst:

    if k%2==0:

        push(st,k)
```



```
print("The output of the above code is:")
```

```
while True:
```

```
    if st!=[]:
```

```
        print(pop(st), end=" ")
```

```
    else:
```

```
        break
```

A. (i) SELECT Firstname, Lastname, Address FROM Employees
WHERE City= "GZB";

(ii) SELECT * FROM Employees
ORDER BY Firstname DESC;

(iii) DELETE FROM Employees
WHERE Empid=215;

B. (i) count(*) City
 2 GZB
 3 Paris

(ii) Firstname
 Sam
 Sarah

SET – 4

1. Create a MySQL-Python connectivity code to create a table MYBOOK to store 5 rows of data. Display the information of those books whose price is greater than 500.
(Create the table in SQL through Python only)

BNO	NAME	PRICE
011	COMPUTER	300
012	MATHS	500
011	PHYSICS	600
012	ENGLISH	800
011	BIOLOGY	750

2. . Consider the tables PRODUCT and SUPPLIER with following information.

TABLE : PRODUCT

P_ID	Manufacture	Price	SN
TP01	LAK	40	S1
FW05	ABC	45	S2
BS01	ABC	55	S3
SH06	XYZ	120	S4
FW12	XYZ	95	S5

TABLE: SUPPLIER

SN	PNAME	SNAME	QTY	CITY
S1	BREAD	BRITANIA	150	DELHI
S2	CAKE	BRITANIA	250	MUMBAI
S3	COFFEE	NESACAFE	170	MUMBAI
S4	CHOCOLATE	AMUL	380	DELHI
S5	SAUCE	KISSAN	470	JAIPUR

- A. Write the SQL commands for the following:

- To display all the information of PRODUCT table in descending order of price.
- To increase value of quantity by 100 where city is Mumbai.
- To display Supplier name, Manufacture, Price and product name of the supplier where City is Delhi.

- B. Write the output of the following:

- Select COUNT(*) ,CITY from SUPPLIER group by CITY;
- Select MAX(PRICE),MIN(PRICE) from PRODUCT;

```

import mysql.connector
#import mysql.connector as mysq
mydb=mysql.connector.connect(host="localhost",user="root",passwd="mysql",database="spsrohini")
mycursor=mydb.cursor()
mycursor.execute("create table if not exists mybook(bno int ,name char(12),price float )")
query="insert into mybook values( {},'{}'.format(011,"COMPUTER",300))
mycursor.execute(query)
query="insert into mybook values( {},'{}'.format(012,"MATHS",500))
mycursor.execute(query)
query="insert into mybook values( {},'{}'.format(013,"PHYSICS",900))
mycursor.execute(query)
query="insert into mybook values( {},'{}'.format(014,"ENGLISH",800))
mycursor.execute(query)
query="insert into mybook values( {},'{}'.format(015,"BIOLOGY",750))
mycursor.execute(query)
mydb.commit()
mycursor.execute("select * from mybook where price> 500")
data=mycursor.fetchall()
for x in data:
    print(x)

```

A.(i) SELECT * FROM PRODUCT
ORDER BY Price DESC;
(ii) UPDATE SUPPLIER
SET QTY=QTY+100
WHERE CITY= "DELHI"
(iii) SELECT SNAME, PNAME, Manufacture, Price
FROM PRODUCT, SUPPLIER
WHERE PRODUCT.SN=SUPPLIER.SN
AND SUPPLIER.CITY= "DELHI";

B. (i) COUNT(*) CITY
2 DELHI
2 MUMBAI
1 JAIPUR

(ii) MAX(PRICE) MIN(PRICE)
120 40