

BRAIN INTERNATIONAL SCHOOL

SUBJECT: C.S.

CLASS-XII Assignment

July-2024

Ch-16: Interface Python with MySQL Ch-7: Data Structures

Ch-6 : Exception Handling

Q1. Q1. A list contains following record of a customer: [Customer_name, Phone_number, City]

Write the following user defined functions to perform given operations on the stack named status:

(i) Push_element() - To Push an object containing name and Phone number of customers who live in Delhi to the stack

(ii) Pop_element() - To Pop the objects from the stack and display them. Also, display "Stack Empty" when there are no elements in the stack.

For example: If the lists of customer details are:

```
["Geeta", "9999999999", "Delhi"]
```

```
["Priti", "8888888888", "Mumbai"]
```

```
["Mohan", "7777777777", "Pune"]
```

```
["Amit", "1010101010", "Delhi"]
```

The stack should contain

```
["Amit", "1010101010"]
```

```
["Geeta", "9999999999"]
```

The output should be:

```
["Amit", "1010101010"]
```

```
["Geeta", "9999999999"]
```

Stack Empty

Q2. What is Stack ? Explain its features with Examples.

Q3. Mitali has created a dictionary containing names and marks as key value pairs of 6 students. Write a program, with separate user defined functions to perform the following operations:

- Push the keys (name of the student) of the dictionary into a stack, where the corresponding value (marks) is greater than 80.
- Pop and display the content of the stack.

For example:

If the sample content of the dictionary is as follows:

```
R={"Ritu":76, "Priya":85, "Mitu":75, "Rohit":79, "Preeti":90, "Shreya":87}
```

The output from the program should be:

Shreya Preeti Priya

Q4. Arun has a list containing 8 integers. You need to help him create a program with separate user defined functions to perform the following operations based on this list.

- Traverse the content of the list and push the even numbers into a stack.
- Pop and display the content of the stack.

For Example:

If the sample Content of the list is as follows:

```
N=[62, 13, 34, 56, 19, 78, 97, 27]
```

Sample Output of the code should be: 78 56 34 62

Q5. Write PushOn(Book) and Pop(Book) methods to add a new Book and delete a book from a list of Book titles, considering them to act as Push and Pop operations of the Stack Data structure.

Q6. Write a function to reverse a string using Stack.

Q7. Find the output of the following code

```
res =0
list=[40,60,30]
list.append(20)
res=res+list.pop( )
res=res+list.pop( )
print(" result= ",res)
```

Q8. Write a function in Python, Push(item) where item is a dictionary containing the details of stationary items-{name:price}. The function should push the names of those items who have price greater than 50. Also display the count of elements pushed into the stack.

For Example: if the dictionary contain the following data:

```
Item ={"Pencil": 40,"Pen":60,"Notebook":70,"Eraser": 45}
```

The stack should contain: Notebook Pen

The output should be : The count of the element in the stack is 2.

Q9. Write a Function in Python Push (Arr), where Arr is a list of numbers. From this list Push all numbers divisible by 5 into a stack implemented by using a list. Display the stack if it has atleast one element, otherwise display appropriate error message.

Q10. Write a Menu driven Program to implement stack operations using List.

Q11. Explain overflow and underflow case in Stack.

Q12. Write any 2 Applications of Stack.

Q13. Which package must be imported in Python to create a Database Connectivity Application?

Q14. M.D. Public School is managing student data in 'School' database. Write a Python code that connects to database school and retrieves all records and displays total number of students.

Q15. Explain the following result retrieval methods with examples.

(1) fetchone() (2) fetchall() (3) fetchmany(n)

Q16. The code given below inserts the following record in the table Student:

EmpNo – integer

EName – string

Phone – integer

Sal – integer

Note the following to establish connectivity between Python and MYSQL:

Username is root

Password is root

The table emp exists in a MYSQL database named Dept.

The details (ENo, EName, Phone and Sal) are to be accepted from the user.

Write the following missing statements to complete the code:

Statement 1 – to form the cursor object

Statement 2 – to execute the command that inserts the record in the table Student.

Statement 3- to add the record permanently in the database

```

import mysql.connector as mysql

def sql_data():
    con1=mysql.connect(host="localhost",user="root", password="root",
database="Dept")

    mycursor=_____ #Statement 1
    eno=int(input("Enter Employee Number :: "))
    ename=input("Enter Employee name :: ")
    phone=int(input("Enter Employee Phone :: "))
    sal=int(input("Enter Employee salary :: "))
    query="insert into emp values({},{},{},{})".format(eno,ename,sal)
    _____ #Statement 2
    _____ # Statement 3
print("Data Added successfully")

```

Q17. Explain different types of Exceptions in Python.

Q18. What are the advantages of Exception Handling?

Q19. When are the following built-in exceptions raised? Give examples.

(a) Import Error (b) IO Error (c) Name Error (d) Zero Division Error

Q20. What is the function of Except block in Exception handling? Where does it appear in a program?