AIM: : Write a Program in Python to implement a Stack Data Structure using Class and Objects, with push, pop, and traversal method.

CODE:

# Implement a stack like structure.  
class Stack:  
  
 # Initializing stack.  
 def \_\_init\_\_(self):  
 self.stack = []  
  
 # Function push to push the element  
 def push(self, value):  
 self.stack.append(value)  
  
 # Function pop to delete the top most element  
 def pop(self):  
 if self.is\_Empty():  
 print("Stack is Empty!!\n")  
 else:  
 self.stack.pop()  
  
 # Function to check if the stack is empty or not.  
 def is\_Empty(self):  
 return self.stack == []  
  
 # Function to traverse the stack.  
 def traversal(self):  
 print(f' stack = {self.stack[::-1]}')  
  
  
# Creating an object of stack.  
s = Stack()  
  
# Giving choice to the user.  
print("Enter from below option : \n")  
while True:  
 print("1. push")  
 print("2. pop")  
 print("3. traversal")  
 print("4. isEmpty")  
 print("5. Quit.")  
  
 choice = int(input())  
  
 if choice == 1:  
 print("Enter element : ")  
 element = int(input())  
 s.push(element)  
 elif choice == 2:  
 s.pop()  
 elif choice == 3:  
 s.traversal()  
 elif choice == 4:  
 status = s.is\_Empty()  
 print(f'Empty Status : {status}\n')  
 elif choice == 5:  
 break  
 else:  
 print("Enter proper choice!!\n")  
 continue

OUTPUT:

