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# Module 3 Python Assignment

## Questions

### Module 3 : Python Assignment

1. Consider a list (list = []). You can perform the following commands:
   - insert i e: Insert integer at position .
   - print: Print the list.
   - remove e: Delete the first occurrence of integer .
   - append e: Insert integer at the end of the list.
   - sort: Sort the list.
   - pop: Pop the last element from the list.
   - reverse: Reverse the list.

Initialize your list and read in the value of followed by lines of commands where each command will be of the types listed above. Iterate through each command in order and perform the corresponding operation on your list.

2. Write a Calculator program in Python?
3. Write a program to concatenate, reverse and slice a string?
4. Why is Python a popular programming language?
5. What are the other Frameworks that can be used with python?
6. Full form of WSGI?

# Answers

**1.Perform the following commands  in a list**

**Code:**

```
lst = [1,2,3,4,5]
print('List Initially: ',lst)


#inserting an element 28 at position 2
lst.insert(2,28)


#priinting the list
print('List after inserting 28 at position 2: ',lst)


# adding the element
lst.append(10)
print('List after appending 10 at the end: ',lst)


#sorting the elements
lst.sort()
print('List after sorting: ',lst)


#pop a element
removed_element = lst.pop(2)


print('Removed Element: ', removed_element)
print('List after poping: ', lst)


#reverse a element
lst.reverse()
print('List after reversing: ',lst)
```

**Output:**

List Initially:  [1, 2, 3, 4, 5]

List after inserting 28 at position 2:  [1, 2, 28, 3, 4, 5]

List after appending 10 at the end:  [1, 2, 28, 3, 4, 5, 10]

List after sorting:  [1, 2, 3, 4, 5, 10, 33]

Removed Element:  3

List after poping:  [1, 2, 4, 5, 10, 33]

List after reversing:  [33, 10, 5, 4, 2, 1]

**2. Write a Calculator program in python**

**Code:**

```
# Function to add two numbers
def add(a, b):
   return a + b

# Function to subtract two numbers
def subtract(a, b):
   return a - b

# Function to multiply two numbers
def multiply(a, b):
   return a * b

# Function to divide two numbers
def divide(a, b):
   return a / b


print("Select operation.")
print("1.Add")
print("2.Subtract")
print("3.Multiply")
print("4.Divide")

while True:
   # Get input from the user
   option = input("Enter option(1/2/3/4): ")

   # check if option is one of the four options
   if option in ('1', '2', '3', '4'):
      num1 = float(input("Enter first number: "))
      num2 = float(input("Enter second number: "))

      if option == '1':
```

```
        print(num1, "+", num2, "=", add(num1, num2))

    elif option == '2':
        print(num1, "-", num2, "=", subtract(num1, num2))

    elif option == '3':
        print(num1, "*", num2, "=", multiply(num1, num2))

    elif option == '4':
        print(num1, "/", num2, "=", divide(num1, num2))

    # check if user wants another calculation
    # break the while loop if answer is no
    next_calculation = input("Let's do next calculation? (yes/no): ")
    if next_calculation == "no":
      break

else:
    print("Invalid Input")
```

**3. Write a program to concatenate,reverse and slice a string**

**Code:**

```
# string concatenation


x = "Python is  a"
y = "Programming language"
z =  x + y
print(‘Concatenated string: ‘ z)

#string reverse

txt = "Welcome home"[::-1]
print(‘Reversed String: ’,txt)

#string slicing

s="Daily Expense detector"       # initial string

slicedString=s[0:13:1]           # slicing

print (‘Sliced String: ‘,slicedString)
```

**Output:**

```
Concatenated string: Python is easy to learn

Reversed String: emoh emocleW

Sliced String: Daily Expense
```

**4. Why is Python a popular programming language?**

Due to its ease of learning and usage, Python codes can easily be written and executed much faster than other available programming languages. And also due to the availability of its vast range of applications with in-built solutions to standard web development tasks, the speed of a single project increases by many times. Python is used in big data and machine learning research purposes to enhance development in those fields. Python is extremely useful in the AI domain and is also used in robotics and other tech advancements, besides data science. One of the main reasons why Python's popularity has exponentially grown is due to its simplicity in syntax so that it could be easy to read and developed by amateur professionals as well.

**5. What are the other frameworks that can be used with python?**

The other frameworks that can be used with python are,

- Cubicweb
- AIOHTTP
- Dash
- Falcon
- Giotto
- Growler
- Bottle
- Django
- CherryPy

**6. Full form of WSGI**

The full form of WSGI is Web Server Gateway Interface.