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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 33 at position 2
lst.insert(2,33)


#priinting the list
print('List after inserting 33 at position 2: ',lst)


# adding the element
lst.append(6)
print('List after appending 6 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 33 at position 2: [1, 2, 33, 3, 4, 5]

List after appending 6 at the end: [1, 2, 33, 3, 4, 5, 6]

List after sorting: [1, 2, 3, 4, 5, 6, 33]

Removed Element: 3

List after poping: [1, 2, 4, 5, 6, 33]

List after reversing: [33, 6, 5, 4, 2, 1]

2. Write a Calculator program in python

Code:

```
# This function adds two numbers
def add(x, y):
    return x + y

# This function subtracts two numbers
def subtract(x, y):
    return x - y

# This function multiplies two numbers
def multiply(x, y):
    return x * y

# This function divides two numbers
def divide(x, y):
    return x / y


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

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

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

        if choice == '1':
            print(num1, "+", num2, "=", add(num1, num2))

        elif choice == '2':
```

```
            print(num1, "-", num2, "=", subtract(num1, num2))

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

        elif choice == '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 "
y = "Easy to learn"
z =  x + y
print('Concatenated string: ',z)


#string reverse

txt = "Hello World"[::-1]
print('Reversed String: ',txt)


#string slicing

s="IBM Python programming"          # initial string

slicedString=s[0:10:1]                    # slicing

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

Output:

Concatenated string: Python is easy to learn

Reversed String: dlroW olleH

Sliced String: IBM Python

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
- Bottle
- Django
- CherryPy
- Falcon
- Giotto
- Growler

6. Full form of WSGI

The Web Server Gateway Interface is the full form of WSGI