Lab – Programming Language for Business Analytics

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Task # 01:

Input:

```
message = "Hello"
print(message)
```

Output:

```
Hello
```

Task # 02:

Input:

```
message = "Hello"
print(message)
message = "Goodbye"
print(message)
```

Output:

```
Hello
Goodbye
```

Task # 03:

Input:

```
person_name = "Adeel"
message = f"Hello {person_name}, would you like to learn some Python
    today?"
print(message)
```

Output:

```
Hello Adeel, would you like to learn some Python today?
```

Task # 04:

Input:

```
person_name = "Adeel"
print(person_name.lower())
print(person_name.upper())
print(person_name.title())
```

Output:

```
adeel
ADEEL
Adeel
```

Task # 05:

Input:

```
author = "Maya Angelou"
quote = "You will face many defeats in life, but never let yourself
    be defeated."
print(f'{author} once said, "{quote}"')
```

Output:

```
Maya Angelou once said, "You will face many defeats in life, but never let
    yourself be defeated."
```

Task # 06:

Input:

```
famous_person = "Albert Einstein"

quote = "A person who never made a mistake never tried anything new."
message = f'{famous_person} once said, "{quote}"'
print(message)
```

Output:

```
Albert Einstein once said, "A person who never made a mistake never tried
    anything new."
```

Task # 07:

Input:

```
name = "\t\n  Adeel Ahmad  \n\t"

print("Original name with whitespace:"
print(repr(name))

print("After lstrip():")
print(repr(name.lstrip()))

print("After rstrip():")
print(repr(name.rstrip()))

print("After strip():")
print(repr(name.strip()))
```

Output:

```
Original name with whitespace:
'\t\n  Adeel Ahmad  \n\t'
After lstrip():
'Adeel Ahmad  \n\t'
After rstrip():
'\t\n  Adeel Ahmad'
After strip():
'Adeel Ahmad'
```

Task # 08:

Input:

```
print(5 + 3)
print(10 - 2)
print(4 * 2)
print(16 / 2)
```

Output:

```
8
8
8
8.0
```

Task # 09:

Input:

```
favorite_number = 7

message = f"My favorite number is {favorite_number}."
print(message)
```

Output:

```
My favorite number is 7.
```

Task # 10:

Input:

```
total_sum = 0

for num in range(1, 51):
    if num % 2 == 0:
        total_sum += num
print("The sum of all even numbers between 1 and 50 is:", total_sum)
```

Output:

```
The sum of all even numbers between 1 and 50 is: 650
```

Task # 11:

Input:

```
names = ["Adeel Ahmad", "Asif", "Ali", "Ahmad"]

print(names[0])
print(names[1])
print(names[2])
print(names[3])
```

Output:

```
Adeel Ahmad
Asif
Ali
Ahmad
```

Task # 12:

Input:

```
names = ["Adeel Ahmad", "Asif", "Ali", "Ahmad"]

print(f"Hello {names[0]}, hope you're having a great day!")
print(f"Hello {names[1]}, hope you're having a great day!")
print(f"Hello {names[2]}, hope you're having a great day!")
print(f"Hello {names[3]}, hope you're having a great day!")
```

Output:

```
Hello Adeel Ahmad, hope you're having a great day!
Hello Asif, hope you're having a great day!
Hello Ali, hope you're having a great day!
Hello Ahmad, hope you're having a great day!
```

Task # 13:

Input:

```
motorcycles = ["Honda", "Yamaha", "Ducati", "Kawasaki"]

print(f"I would like to own a {motorcycles[0]} motorcycle.")
print(f"I would like to own a {motorcycles[1]} motorcycle.")
print(f"I would like to own a {motorcycles[2]} motorcycle.")
print(f"I would like to own a {motorcycles[3]} motorcycle.")
```

Output:

```
I would like to own a Honda motorcycle.
I would like to own a Yamaha motorcycle.
I would like to own a Ducati motorcycle.
I would like to own a Kawasaki motorcycle.
```

Task # 14:

Input:

```
guests = ["Adeel Ahmad", "Asif", "Ali"]

for guest in guests:
    print(f"Dear {guest}, I would be delighted if you could join me
        for dinner.")
```

Output:

```
Dear Adeel Ahmad, I would be delighted if you could join me for dinner.
Dear Asif, I would be delighted if you could join me for dinner.
Dear Ali, I would be delighted if you could join me for dinner.
```

Task # 15:

Input:

```
guests = ["Nikola Tesla", "Frida Kahlo", "Nelson Mandela"]

for guest in guests:
    print(f"Dear {guest}, I would be delighted if you could join me
        for dinner.")
unable_to_attend = guests[1]
print(f"\nUnfortunately, {unable_to_attend} can't make it to the
    dinner.")
guests[1] = "Marie Curie"
print()
for guest in guests:
    print(f"Dear {guest}, I would be delighted if you could join me
        for dinner.")
```

Output:

```
Dear Nikola Tesla, I would be delighted if you could join me for dinner.
Dear Frida Kahlo, I would be delighted if you could join me for dinner.
Dear Nelson Mandela, I would be delighted if you could join me for dinner.

Unfortunately, Frida Kahlo can't make it to the dinner.

Dear Nikola Tesla, I would be delighted if you could join me for dinner.
Dear Marie Curie, I would be delighted if you could join me for dinner.
Dear Nelson Mandela, I would be delighted if you could join me for dinner.
```

Task # 16:

Input:

```
guests = ["Ada Lovelace", "Nikola Tesla", "Martin Luther King Jr.",
    "Marie Curie", "Nelson Mandela", "Amelia Earhart"]

print("Unfortunately, the new dinner table won't arrive in time, so I
    can invite only two people for dinner.\n")
while len(guests) > 2:
    removed_guest = guests.pop()
    print(f"Dear {removed_guest}, I'm sorry I can't invite you to
        dinner.")
print()
for guest in guests:
    print(f"Dear {guest}, you are still invited to dinner!")
del guests[1]
del guests[0]
print("\nGuest list after removing everyone:", guests)
```

Output:

```
Good news! I found a bigger dinner table, so I can invite more guests.

Dear Ada Lovelace, I would be delighted if you could join me for dinner.
Dear Nikola Tesla, I would be delighted if you could join me for dinner.
Dear Martin Luther King Jr., I would be delighted if you could join me fo
    dinner.
Dear Marie Curie, I would be delighted if you could join me for dinner.
Dear Nelson Mandela, I would be delighted if you could join me for dinner
Dear Amelia Earhart, I would be delighted if you could join me for dinner
```

Task # 17:

Input:

```
guests = ['Albert Einstein', 'Marie Curie', 'Charles Darwin', 'Ada
    Lovelace']

for guest in guests:
    print(f"Dear {guest}, you are invited to dinner.")
print("\nSorry, the dinner table won't arrive in time, and we can
    invite only two people for dinner.")
while len(guests) > 2:
    removed_guest = guests.pop()
    print(f"\nSorry {removed_guest}, we can't invite you to dinner.")
for guest in guests:
    print(f"\nDear {guest}, you are still invited to dinner.")
del guests[:]
print("\nGuest list:", guests)
```

Output:

```
Dear Albert Einstein, you are invited to dinner.
Dear Marie Curie, you are invited to dinner.
Dear Charles Darwin, you are invited to dinner.
Dear Ada Lovelace, you are invited to dinner.

Sorry, the dinner table won't arrive in time, and we can invite only two
    people for dinner.

Sorry Ada Lovelace, we can't invite you to dinner.

Sorry Charles Darwin, we can't invite you to dinner.

Dear Albert Einstein, you are still invited to dinner.

Dear Marie Curie, you are still invited to dinner.

Guest list: []
```

Task # 18:

Input:

```
places = ["Tokyo", "Paris", "New York", "Sydney", "Cape Town"]
print("Original list:")
print(places)
print("\nSorted list (alphabetical, without modifying original):")
print(sorted(places))
print("\nOriginal list after sorted():")
print(places)
print("\nSorted list (reverse alphabetical, without modifying
    original):")
print(sorted(places, reverse=True))
print("\nOriginal list after reverse sorted():")
print(places)
places.reverse()
print("\nList after reverse():")
```

```
print("\nList after reversing again (back to original):")
print(places)
places.sort()
print("\nList after sort() (alphabetical):")
print(places)
places.sort(reverse=True)
print("\nList after sort(reverse=True) (reverse alphabetical):")
print(places)
```

Output:

```
Original list:
['Tokyo', 'Paris', 'New York', 'Sydney', 'Cape Town']

Sorted list (alphabetical, without modifying original):
['Cape Town', 'New York', 'Paris', 'Sydney', 'Tokyo']

Original list after sorted():
['Tokyo', 'Paris', 'New York', 'Sydney', 'Cape Town']

Sorted list (reverse alphabetical, without modifying original):
['Tokyo', 'Sydney', 'Paris', 'New York', 'Cape Town']

Original list after reverse sorted():
['Tokyo', 'Paris', 'New York', 'Sydney', 'Cape Town']

List after reverse():
['Cape Town', 'Sydney', 'New York', 'Paris', 'Tokyo']

List after reversing again (back to original):
['Tokyo', 'Paris', 'New York', 'Sydney', 'Cape Town']
```

```
List after sort() (alphabetical):
['Cape Town', 'New York', 'Paris', 'Sydney', 'Tokyo']

List after sort(reverse=True) (reverse alphabetical):
['Tokyo', 'Sydney', 'Paris', 'New York', 'Cape Town']
```

Task # 19:

Input:

```
guests = ["Ada Lovelace", "Nikola Tesla", "Martin Luther King Jr.",
    "Marie Curie", "Nelson Mandela", "Amelia Earhart"]
print(f"I am inviting {len(guests)} people to dinner.")
```

Output:

```
I am inviting 6 people to dinner.
```