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SUBJECT: MODREN PROGRAMMING LANGUAGE

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ANS 1: class Restaurant():

```
    """A class representing a restaurant."""

    def __init__(self, name, cuisine_type):

        """Initialize the restaurant."""

        self.name = name.title()

        self.cuisine_type = cuisine_type

    def describe_restaurant(self):

        """Display a summary of the restaurant."""

        msg = self.name + " serves wonderful " + self.cuisine_type + "."

        print("\n" + msg)

    def open_restaurant(self):

        """Display a message that the restaurant is open."""

        msg = self.name + " is open. Come on in!"

        print("\n" + msg)

restaurant = Restaurant('the mean queen', 'pizza')

print(restaurant.name)
```

print(restaurant.cuisine_type)

restaurant.describe_restaurant()

restaurant.open_restaurant()

Output:

The Mean Queen

pizza

The Mean Queen serves wonderful pizza.

The Mean Queen is open. Come on in!

ANS 2: def make_album(artist, title):

```python
    """Build a dictionary containing information about an album."""
    album_dict = {
        'artist': artist.title(),
        'title': title.title(),
        }
    return album_dict
album = make_album('metallica', 'ride the lightning')
print(album)
album = make_album('beethoven', 'ninth symphony')
print(album)
album = make_album('willie nelson', 'red-headed stranger')
print(album)
```

Output:

{'title': 'Ride The Lightning', 'artist': 'Metallica'}

{'title': 'Ninth Symphony', 'artist': 'Beethoven'}

{'title': 'Red-Headed Stranger', 'artist': 'Willie Nelson'}

With tracks:

```python
def make_album(artist, title, tracks=0):
    """Build a dictionary containing information about an album."""
    album_dict = {
        'artist': artist.title(),
        'title': title.title(),
        }
    if tracks:
        album_dict['tracks'] = tracks
    return album_dict

album = make_album('metallica', 'ride the lightning')
print(album)

album = make_album('beethoven', 'ninth symphony')
print(album)

album = make_album('willie nelson', 'red-headed stranger')
print(album)

album = make_album('iron maiden', 'piece of mind', tracks=8)
print(album)
```

Output:

{'artist': 'Metallica', 'title': 'Ride The Lightning'}

{'artist': 'Beethoven', 'title': 'Ninth Symphony'}

{'artist': 'Willie Nelson', 'title': 'Red-Headed Stranger'}

{'tracks': 8, 'artist': 'Iron Maiden', 'title': 'Piece Of Mind'}

ANS 3: PART A: car = input("What kind of car would you like? ")

print("Let me see if I can find you a " + car.title() + ".")

Output:

What kind of car would you like? Toyota Tacoma

Let me see if I can find you a Toyota Tacoma.

PART B: party_size = input("How many people are in your dinner party tonight? ")

party_size = int(party_size)

if party_size > 8:

    print("I'm sorry, you'll have to wait for a table.")

else:

    print("Your table is ready.")

Output:

How many people are in your dinner party tonight? 12

I'm sorry, you'll have to wait for a table.

PART C: number = input("Give me a number, please: ")

number = int(number)

if number % 10 == 0:

    print(str(number) + " is a multiple of 10.")

else:

    print(str(number) + " is not a multiple of 10.")

Output:

Give me a number, please: 23

23 is not a multiple of 10.

PART D: number = input("Give me a number, please: ")

```
number = int(number)

if number % 20 == 0:

    print(str(number) + " is a multiple of 20.")

else:

    print(str(number) + " is not a multiple of 20.")
```

Output:

Give me a number, please: 45

45 is not a multiple of 20.

PART E: number = input("Give me a number, please: ")

```
number = int(number)


if number % 30 == 0:

    print(str(number) + " is a multiple of 30.")

else:

    print(str(number) + " is not a multiple of 30.")
```

Output:

Give me a number, please: 62

62 is not a multiple of 30.

PART F:

```
number = input("Give me a number, please: ")
number = int(number)
if number % 140 == 0:
    print(str(number) + " is a multiple of 140.")
else:
    print(str(number) + " is not a multiple of 140.")
```

Output:

Give me a number, please: 281

281 is not a multiple of 140.

ANS 4:

```
prompt = "\nWhat topping would you like on your pizza?"
prompt += "\nEnter 'quit' when you are finished: "
while True:
    topping = input(prompt)
    if topping != 'quit':
        print("    I'll add " + topping + " to your pizza.")
    else:
        break
```

Output:

What topping would you like on your pizza?

Enter 'quit' when you are finished: pepperoni

   I'll add pepperoni to your pizza.

What topping would you like on your pizza?

Enter 'quit' when you are finished: sausage

I'll add sausage to your pizza.

What topping would you like on your pizza?

Enter 'quit' when you are finished: bacon

    I'll add bacon to your pizza.

What topping would you like on your pizza?

Enter 'quit' when you are finished: quit

ANS 5: rivers = {

    'nile': 'egypt',

    'mississippi': 'united states',

    'fraser': 'canada',

    'kuskokwim': 'alaska',

    'yangtze': 'china',

'lena':'russia',

'amazon':' america',

'longo-chambeshi':'central africa',

'yellow':'china',

'ob':'russia',

    }

for river, country in rivers.items():

    print("The " + river.title() + " flows through " + country.title() + ".")

print("\nThe following rivers are included in this data set:")

for river in rivers.keys():

    print("- " + river.title())

print("\nThe following countries are included in this data set:")

```
for country in rivers.values():

    print("- " + country.title())
```

Output*:

The Mississippi flows through United States.

The Yangtze flows through China.

The Fraser flows through Canada.

The Nile flows through Egypt.

The Kuskokwim flows through Alaska.

The lena flows through russia.

The yellow flows through china.

The amazon flows through south africa.

The ob flows through china.

The longo flows through central africa.

The following rivers are included in this data set:

- Mississippi

- Yangtze

- Fraser

- Nile

- Kuskokwim

- lena

- amazon

- longo

- yellow

- ob

The following countries are included in this data set:

- United States

- China

- Canada

- Egypt

- Alaska

- russia

- south america

- central africa

- china

- russia