Assignment 2 - 20 June 24 - (Thursday)

Its childrens day and the class teacher wanted to share chocolates with the entire class the details are as follows,The number of chocolates with the teacher are = 327 Number of kids in the class are = 78. Write a program to perform modulus division using (%) modulus operator and find out how many chocolates are remaining with the teacher after equally distributing 327 chocolates to 78 students.

```
# Number of chocolates with the teacher
total_chocolates = 327

# Number of kids in the class
number_of_kids = 78

# Calculate the remainder of chocolates after distribution
remaining_chocolates = total_chocolates % number_of_kids

# Print the result
print("The number of chocolates remaining with the teacher after distribution is: ", remaining_chocolates)
```

```
The number of chocolates remaining with the teacher after distribution is:  15
```

It's Domino's 25th Anniversary and is planning for a big give away and in order to choose the lucky draw winner Domino's first needs to collect all of its customer details. On collecting the customer details Domino's even wants to thank each and every customer for visiting as soon as they entered their details.Write a program to accept customer details like customer name, customer mobile number, customer age, customer email Id.On successfully receiving all the customer information write a print() to thank the customer by using his name for example"Hi", customerName,"!! Thanks for visiting our restaurant and registering for our lucky draw competition on our 25th Anniversary.""Once the lucky draw results are announced you will receive a message on your mobile number :",customerMobileNumber"An detailed description of your gift on your email Id :",customerEmailId"Thank you for being a valued customer",customerName,"!!""Dominos"

```
# Collecting customer details
customer_name = input("Enter your name: ")
customer_mobile_number = input("Enter your mobile number: ")
customer_age = input("Enter your age: ")
customer_email_id = input("Enter your email ID: ")

# Printing the thank you message
print("\nHi " + customer_name + "!! Thanks for visiting our restaurant and registering for our lucky draw competition on our 25th Anniversary.")
print("Once the lucky draw results are announced you will receive a message on your mobile number: " + customer_mobile_number)
print("A detailed description of your gift will be sent to your email ID: " + customer_email_id)
print("Thank you for being a valued customer, " + customer_name + "!!")
print("Domino's")
```

```
Enter your name: Kahar Saurabh Ramesh
Enter your mobile number: 9619281125
Enter your age: 23
Enter your email ID: kaharsaurabh2017@gmail.com

Hi Kahar Saurabh Ramesh!! Thanks for visiting our restaurant and registering for our lucky draw competition on our 25th Anniversary.
Once the lucky draw results are announced you will receive a message on your mobile number: 9619281125
A detailed description of your gift will be sent to your email ID: kaharsaurabh2017@gmail.com
Thank you for being a valued customer, Kahar Saurabh Ramesh!!
Domino's
```

Teacher wants to conduct a quiz activity in her class. For that she is planning to group 4 students for each team among 60 students. She wants to know how many teams she can create among 60 students.Write a program to find the total number of teams that can be created among students by dividing total number of students to the number of students per team.Total number of student = 60 Number of students per team =4

```
# Total number of students
total_students = 60

# Number of students per team
students_per_team = 4

# Calculate the number of teams
number_of_teams = total_students // students_per_team

# Print the result
print("The total number of teams that can be created is:", number_of_teams)
```

```
The total number of teams that can be created is: 15
```

Nidhi loves to travel to different countries. She is now in a country where the temperature is measured in Fahrenheit and she is not able to understand it in a better way. To help her in this situation, write program to convert temperature from Fahrenheit to celsius. ● Hint: (0°C × 9/5) + 32 = 32°F

```
# Collecting the temperature in Fahrenheit from the user
fahrenheit = float(input("Enter the temperature in Fahrenheit: "))

# Converting Fahrenheit to Celsius
celsius = (fahrenheit - 32) * 5 / 9

# Printing the result
print(f"The temperature in Celsius is: {celsius:.2f}°C")
```

```
Enter the temperature in Fahrenheit: 105
The temperature in Celsius is: 40.56°C
```

Double-click (or enter) to edit

A palindrome is a word, number, phrase, or other sequence of characters that reads the same backward as forward, such as madam or racecar. Arunima got a new puppy (pet) and she wants to decide the name for her pet. The name of the pet should be a palindrome. Write a program to take the pet name as input and print "true" if it is palindrome or print "false" on screen. Help Arunima to decide the name (should be palindrome) of the puppy. Hint: reverse the name and compare it with the original name

```
# Taking the pet name as input
pet_name = input("Enter the name for your pet: ")

# Checking if the pet name is a palindrome
if pet_name == pet_name[::-1]:
    print("true")
else:
    print("false")
```

```
Enter the name for your pet: rotator
true
```

Aarush and Yash are two friends in the same grade and they decided to create their secret language to communicate with each other. First of all, they decided to reverse each word. For example: come here = "emoc ereh". But this was very easy to understand for other students. They tried to make it a bit difficult and decided to put all the characters which are at odd indices first then all the characters which are at even indices. For example: come here = "oecm eehr". Write a program in python to create such type of secret language and convert the word Codeyoung into secret language using the same program. Can we convert the secret language back to normal language using python? Discuss

```
# Define the word to be converted
word = input("Enter Word: ")

# Reverse the word
reversed_word = word[::-1]

# Separate characters at odd and even indices
odd_chars = "".join(reversed_word[i] for i in range(len(reversed_word)) if i % 2 != 0)
even_chars = "".join(reversed_word[i] for i in range(len(reversed_word)) if i % 2 == 0)

# Combine odd and even characters
secret_language = odd_chars + even_chars

# Print the secret language
print("Secret Language:", secret_language)
```

```
Enter Word: come here
Secret Language: rheoee mc
```

Vishal is creating a form and he wants to take the contact number as input. However, some people do not enter the number properly. Vishal is confused about how to verify whether the given number is in the correct format or not. To help Vishal write a python program to show how we can verify whether a given phone number is valid or not. ● Note: A valid phone number contains 10 digits with 9,8 or 7 as the first digit. Phone number only contains numbers and not any character. ● Hint: ● User len() function to verify the number of digits. ● Use isnumeric() function to check it only contains numeric values.Use indexing to check whether the first character is 9,8 or 7 or not.

```
def is_valid_phone_number(phone_number):
    # Check if the length of the phone number is 10 and it contains only numeric values
    if len(phone_number) == 10 and phone_number.isnumeric():
        # Check if the first digit is 9, 8, or 7
        if phone_number[0] in ['9', '8', '7']:
            return True
        else:
            return False
    else:
        return False

# Example usage
phone_number = input("Enter the phone number: ")

if is_valid_phone_number(phone_number):
    print("Valid phone number.")
else:
    print("Invalid phone number.")
```

```
Enter the phone number: 8653297418
Valid phone number.
```

The RTO (Regional Transport Office) website holds a registration form which is responsible for registering a user for a Driving License. The RTO wants to take the next step if and only if the user's age is greater than or equal to 18.

Scenario 1 : When Traffic Light is Red

Jake, a 20 year old teenager has learnt to ride a bike and is a bit confused with the traffic signals. He doesn't know what to do when the signal is red.

So In this scenario Jake should just know what Jake should do when the signal is red whether he should leave or stop.

So Write a If-Else condition to guide Jake

```
age = int(input("Enter age: "))


if age >= 18:
    print("You are eligible to drive.")
    signal_color = input("\nEnter the signal color: ")
    if signal_color == "red":
        print("Stop at the signal.")
    else:
        print("You can proceed safely.")
else:
    print("\nYou are not eligible to drive.")
```

```
Enter age: 20
You are eligible to drive.

Enter the signal color: green
You can proceed safely.
```

Mary, a 15 year old girl, was watching her mom making a budget list every month, either her mom use to forget few things or she use to go out of budget due to no proper grocery list that says quantity of items, prices and stuff.

So Mary wants to help her mom in managing the monthly groceries by creating an app that takes grocery item name, item price and quantity of item.

Before all this, the app is suppose to accept the budget amount, if shopping list items price cross over the budget amount then any new items should not be added to the list.

There should be 2 things in the menu of the app one to add an item and the second option to exit from the menu once the add item is chosen, then the item name, item quantity and item price should be accepted and the price should be checked with the budget amount. If the item

amount is crossing the budget amount then the item cannot be added to the list.

If the exit option is chosen then the total budget amount and the remaining balance should be displayed

```
# Accept the budget amount from the user
budget = float(input("Enter your budget amount: "))

# Initialize an empty grocery list
grocery_list = []

# Menu-driven loop to add items or exit
while True:
    print("\nMenu:")
    print("1. Add Item")
    print("2. Exit")

    choice = input("Enter your choice (1/2): ")

    if choice == "1":
        # Accept item details
        item_name = input("Enter the item name: ")
        item_quantity = int(input("Enter the quantity of the item: "))
        item_price = float(input("Enter the price of the item: "))

        # Calculate total item cost
        total_item_cost = item_quantity * item_price

        # Check if item cost is within budget
        if total_item_cost <= budget:
            grocery_list.append((item_name, item_quantity, item_price))
            print(f"{item_name} added to the list.")
        else:
            print("Sorry, the item cannot be added to the list as it exceeds the budget.")
    elif choice == "2":
        break
    else:
        print("Invalid choice. Please enter 1 or 2.")

# Display the final grocery list
print("\nGrocery List:")
for index, item in enumerate(grocery_list, start=1):
    item_name, item_quantity, item_price = item
    print(f"{index}. {item_name} - Quantity: {item_quantity}, Price: ₹{item_price}")

# Calculate total spent and remaining budget
total_spent = sum(item[1] * item[2] for item in grocery_list)
remaining_budget = budget - total_spent

# Display total budget, total spent, and remaining budget
print(f"\nTotal Budget Amount: ₹{budget}")
print(f"Total Spent: ₹{total_spent}")
print(f"Remaining Budget: ₹{remaining_budget}")
```

```
Enter your budget amount: 500

Menu:
1. Add Item
2. Exit
Enter your choice (1/2): 1
Enter the item name: Maggie
Enter the quantity of the item: 2
Enter the price of the item: 80
Maggie added to the list.

Menu:
1. Add Item
2. Exit
Enter your choice (1/2): 1
Enter the item name: Noodle
Enter the quantity of the item: 3
Enter the price of the item: 85
Noodle added to the list.

Menu:
1. Add Item
2. Exit
Enter your choice (1/2): 1
Enter the item name: Chocolate
Enter the quantity of the item: 1
Enter the price of the item: 50
Chocolate added to the list.

Menu:
1. Add Item
2. Exit
Enter your choice (1/2): 2

Grocery List:
1. Maggie - Quantity: 2, Price: ₹80.0
2. Noodle - Quantity: 3, Price: ₹85.0
3. Chocolate - Quantity: 1, Price: ₹50.0

Total Budget Amount: ₹500.0
Total Spent: ₹465.0
Remaining Budget: ₹35.0
```

Sameer, a resident of India met John, a resident of california on facebook and they became friends, just in a conversation they planned to know each other's height and there was a problem, John would understand only if told in centimeter(cm) format. So write a program to help John to understand Sameer's height in python to convert Feet & Inches To CM

```
def feet_and_inches_to_cm(feet, inches):
    total_inches = (feet * 12) + inches
    cm = total_inches * 2.54
    return cm

# Input Sameer's height in feet and inches
height_str = input("Enter Sameer's height (e.g., 5 feet 6 inches): ")

# Split the input into feet and inches parts
height_parts = height_str.split()
feet = int(height_parts[0])
inches = int(height_parts[2])

# Convert to centimeters
height_cm = feet_and_inches_to_cm(feet, inches)

# Display the result
print(f"Sameer's height is {height_cm:.2f} centimeters.")
```

```
Enter Sameer's height (e.g., 5 feet 6 inches): 6 feet 7 inches
Sameer's height is 200.66 centimeters.
```