**Task No. 1:** Write a Python program that prompts user to enter the birth year and returns age in year.

**Solution:**

try:

birth\_year = int(input("Enter your birth year: "))

# Calculate the age

age = 2023 - birth\_year

# Display the result

if age >= 0:

print(f"You are {age} years old.")

else:

print("Please enter a valid birth year.")

except ValueError:

print("Invalid input. Please enter a valid year.")

**Output:**

**Task No. 2:** Write a python program that asks the user to input the cost of their meal as a float value. It then calculates the tip amount based on the meal cost. If the meal cost is less than 5000, the tip is calculated as 15% of the meal cost. If the meal cost is 5000 or more, the tip is calculated as 20% of the meal cost. The program then calculates the sales tax amount as 15% of the meal cost and calculates the total cost of the meal by adding the meal cost, tip amount, and sales tax amount together.

**Solution:**

try:

meal\_cost = float(input("Enter the cost of your meal: "))

if meal\_cost < 5000:

tip\_amount = 0.15 \* meal\_cost

else:

tip\_amount = 0.20 \* meal\_cost

sales\_tax = 0.15 \* meal\_cost

total\_cost = meal\_cost + tip\_amount + sales\_tax

print(f"Meal Cost: ${meal\_cost:.2f}")

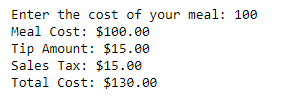
print(f"Tip Amount: ${tip\_amount:.2f}")

print(f"Sales Tax: ${sales\_tax:.2f}")

print(f"Total Cost: ${total\_cost:.2f}")

except ValueError:

print("Invalid input. Please enter a valid cost for your meal.")

**Output:**

**Task No. 3:** Write Python program that asks the user for their age, education status, and years of work experience. The program first checks if the user is at least 18 years old, and then checks if they have a Bachelor's degree. If the user has a Bachelor's degree, the program checks if they have at least 2 years of work experience. If the user meets all of these conditions, the program prints a message congratulating them on their eligibility for the job. If the user does not meet any of these conditions, the program prints a message explaining why they are not eligible for the job.

**Solution:**

try:

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

education = input("Do you have a Bachelor's degree? (yes/no): ").strip().lower()

years\_of\_experience = int(input("Enter your years of work experience: "))

if age >= 18:

if education == "yes":

if years\_of\_experience >= 2:

print("Congratulations! You are eligible for the job.")

else:

print("Sorry, you are not eligible for the job. You need at least 2 years of work experience.")

else:

print("Sorry, you are not eligible for the job. You need a Bachelor's degree.")

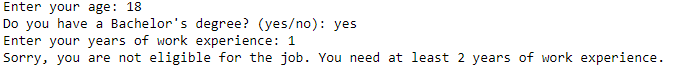
else:

print("Sorry, you are not eligible for the job. You must be at least 18 years old.")

except ValueError:

print("Invalid input. Please enter valid age and years of work experience.")

**Output:**



**Task No. 4:** Write a python program to calculate factorial of a given number.

**Solution:**

def calculate\_factorial(number):

factorial = 1

if number < 0:

return "Factorial is not defined for negative numbers."

elif number == 0:

return 1

else:

for i in range(1, number + 1):

factorial \*= i

return factorial

try:

num = int(input("Enter a non-negative integer: "))

result = calculate\_factorial(num)

print(f"The factorial of {num} is {result}")

except ValueError:

print("Invalid input. Please enter a non-negative integer.")

**Output:**

**Task No. 5:** Write a program to check if the number is 0 , positive even/odd , or the number is negative. After that iterate over the numbers from 0 up to the entered number and check if each number is even or odd and how many numbers in total were even and odd.

**Solution:**

try:

num = int(input("Enter an integer: "))

if num == 0:

print("The number is 0.")

elif num > 0:

if num % 2 == 0:

print("The number is positive even.")

else:

print("The number is positive odd.")

else:

print("The number is negative.")

even\_count = 0

odd\_count = 0

for i in range(num + 1):

if i % 2 == 0:

even\_count += 1

else:

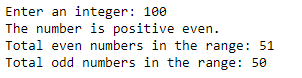
odd\_count += 1

print(f"Total even numbers in the range: {even\_count}")

print(f"Total odd numbers in the range: {odd\_count}")

except ValueError:

print("Invalid input. Please enter an integer.")

**Output:**