Name - Vivek Singh Kandari University Roll No. – 23230086
Roll No. – 62 Course - BSc IT

**Ques -1 WAP to count the number of odd and even digits of given number n= 123456.**

**Sol :** n = 123456 # Given number

```
even_count = 0
odd_count = 0
while n > 0:
    digit = n % 10  # Extract last digit
    if digit % 2 == 0:
        even_count += 1
    else:
        odd_count += 1
    n //= 10  # Remove last digit
print("Even digits count:", even_count)
print("Odd digits count:", odd_count)
```

```
[Running] python -u "c:\Users\LENOVO\OneDrive\Desktop\kr.py"
Even digits count: 3
Odd digits count: 3

[Done] exited with code=0 in 0.248 seconds
```

**Ques-2 Write a python program to check whether a person is eligible to see a football match or not, and how much they will pay for the ticket. Eligibility is based on the following conditions:**

1. **age must be greater than 18 and less than 80**
2. **if age between 18 to 60 then ticket price will be rupees 100**
3. **if age between 60 to 80 then ticket price will be rupees 50**

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

```
if 18 <= age < 80:
    if 18 <= age <= 60:
        ticket_price = 100
```

```
    else:  # Age between 61 and 79
        ticket_price = 50
    print(f"You are eligible to watch the football match. Ticket price: ₹{ticket_price}")
else:
    print("Sorry, you are not eligible to watch the football match.")
```

```
PS C:\Users\LENOVO\OneDrive\Desktop\ht>  c:; cd 'c:\Users\LENOVO\OneDrive\Desktop\ht'; & 'c:\Program Files\Python311\python.exe' 'c:\Users\LENOVO\.
code\extensions\ms-python.debugpy-2025.0.1-win32-x64\bundled\libs\debugpy\launcher' '50552' '--' 'C:\Users\LENOVO\OneDrive\Desktop\kr.py'
Enter your age: 19
You are eligible to watch the football match. Ticket price: ₹100
PS C:\Users\LENOVO\OneDrive\Desktop\ht>
```

**Ques – 3 A university wants to automate its grading system. Given a student's marks in three subjects, calculate the total, percentage, and grade based on the following criteria:**

- **Percentage ≥ 90: Grade A**
- **Percentage ≥ 80 and < 90: Grade B**
- **Percentage ≥ 70 and < 80: Grade C**
- **Percentage ≥ 60 and < 70: Grade D**
- **Percentage < 60: Grade F**

**Sol :**

```
# Input marks for three subjects
sub1 = float(input("Enter marks for subject 1: "))
sub2 = float(input("Enter marks for subject 2: "))
sub3 = float(input("Enter marks for subject 3: "))
# Calculate total and percentage
total_marks = sub1 + sub2 + sub3
percentage = (total_marks / 300) * 100  # Assuming each subject is out of 100
# Determine grade
if percentage >= 90:
    grade = "A"
elif percentage >= 80:
    grade = "B"
elif percentage >= 70:
```

```
    grade = "C"
elif percentage >= 60:
    grade = "D"
else:
    grade = "F"
# Display results
print(f"\nTotal Marks: {total_marks}")
print(f"Percentage: {percentage:.2f}%")
print(f"Grade: {grade}")
```

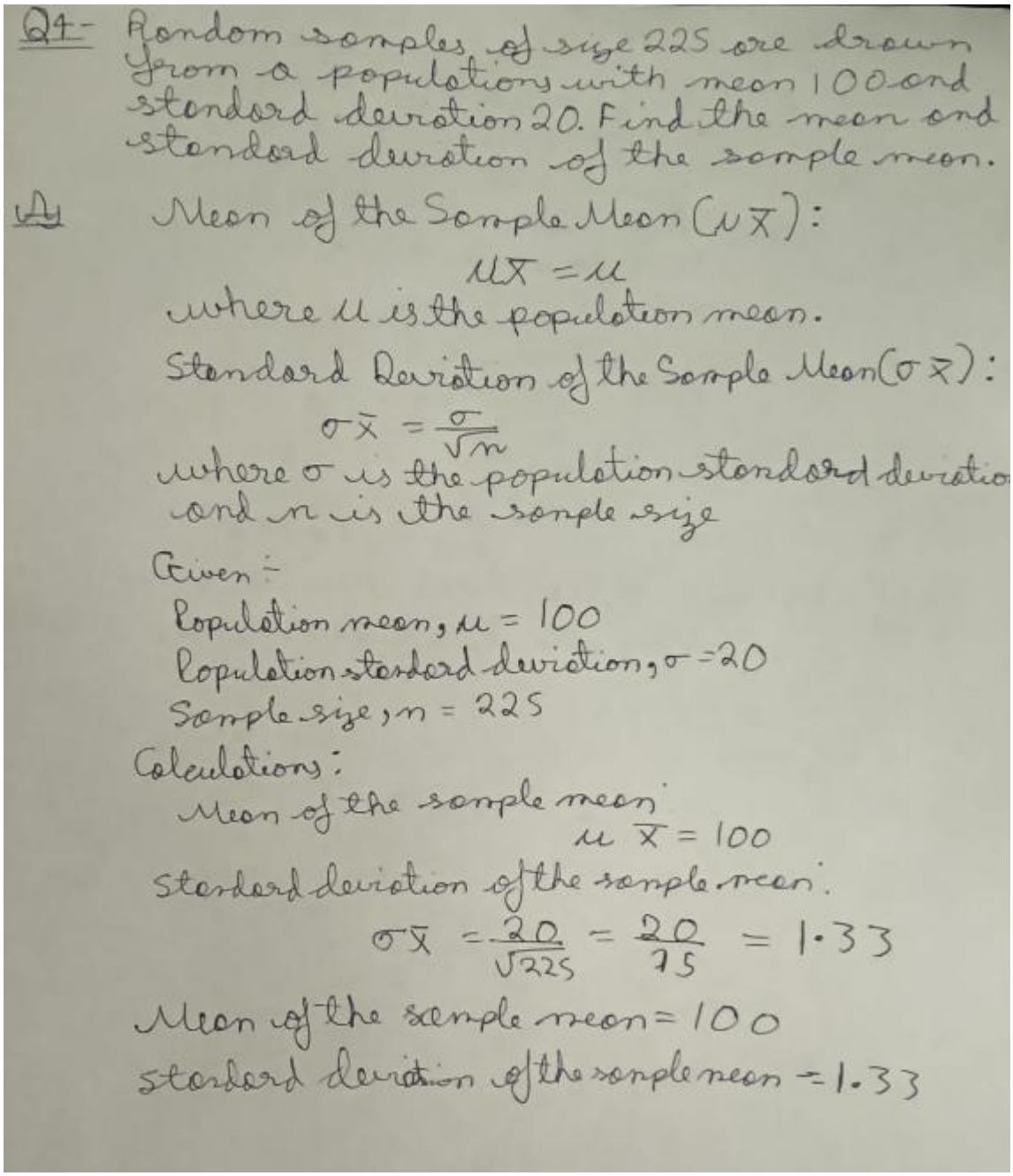
```
code\extensions\ms-python.debugpy-2025.0.1-win32-x64
Enter marks for subject 1: 70
Enter marks for subject 2: 75
Enter marks for subject 3: 67

Total Marks: 212.0
Percentage: 70.67%
Grade: C
PS C:\Users\LENOVO\OneDrive\Desktop\ht>
```

Name - Vivek Singh Kandari University Roll No. – 23230086
Roll No. – 62 Course - BSc IT

**Ques – 4 Random samples of size 225 are drawn from a population with mean 100 and standard deviation 20. Find the mean and standard deviation of the sample mean.**

**Sol:**



Q4- Random samples of size 225 are drawn from a populations with mean 100 and standard deviation 20. Find the mean and standard deviation of the sample mean.

Ans Mean of the Sample Mean ($\mu_{\bar{X}}$):

$$\mu_{\bar{X}} = \mu$$

where $\mu$ is the population mean.

Standard Deviation of the Sample Mean ($\sigma_{\bar{x}}$):

$$\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$$

where $\sigma$ is the population standard deviation and $n$ is the sample size

Given:

Population mean, $\mu = 100$

Population standard deviation, $\sigma = 20$

Sample size, $n = 225$

Calculations:

Mean of the sample mean:

$$\mu_{\bar{X}} = 100$$

Standard deviation of the sample mean:

$$\sigma_{\bar{x}} = \frac{20}{\sqrt{225}} = \frac{20}{15} = 1.33$$

Mean of the sample mean = 100

Standard deviation of the sample mean = 1.33

Name - Vivek Singh Kandari University Roll No. – 23230086
Roll No. – 62 Course - BSc IT

**Ques – 5 Random samples of size 64 are drawn from a population with mean 32 and standard deviation 5. Find the mean and standard deviation of the sample mean.**

**Sol:**