

```
In [1]: #1 To calculate momentum
mass = int(input("enter mass"))
velocity = int(input("enter the volume"))
momentum=mass*velocity
print(f"the entered mass is {momentum}")
```

```
enter mass30
enter the volume40
the entered mass is 1200
```

```
In [4]: #2 if n is less than 10 then print square,elif double digit then square root,elif n is three digit then cube root
import math
n=int(input("enter the value of n"))
if 0 <= n < 10:
    print("square of n is:",n*n)
elif 10 <= n < 100:
    print(f"sq root of {n} : {math.sqrt(n):.2f}")
elif 100 <=n < 1000:
    print(f"cube root of {n} : {n**(1/3):.2f}")
else:
    print("please enter the value of n in between 0 to 999")
```

```
enter the value of n81
sq root of 81 : 9.00
```

```
In [2]: from datetime import datetime
def calculate_age(birthdate):
    today = datetime.now()
    birthdate = datetime.strptime(birthdate, "%Y-%m-%d")
    return today.year - birthdate.year - ((today.month, today.day) < (birthdate.month, birthdate.day))

def salary_in_dollars(salary_in_rupees, conversion_rate=87.56):
    return salary_in_rupees/conversion_rate

birthdate = input("Enter birthdate (YYYY-MM-DD): ")
salary = float(input("Enter salary in rupees: "))

age = calculate_age(birthdate)
salary_usd = salary_in_dollars(salary)

print(f"Age: {age} years")
print(f"Salary in USD: ${salary_usd:.2f}")
```

```
Enter birthdate (YYYY-MM-DD): 2006-05-20
Enter salary in rupees: 84748
Age: 18 years
Salary in USD: $967.88
```

```
In [12]: #4 reverse no of given no
number=int(input("enter a number"))
reverse_number =int(str(number)[::-1])
print(f"reversed no is {reverse_number :}")
```

enter a number508
reversed no is 805

```
In [3]: #5 tables of no.
n=int(input("enter the no :"))
for i in range(1,11):
    print(f"{n}*{i} = {n*i}")
```

enter the no :10
10*1 = 10
10*2 = 20
10*3 = 30
10*4 = 40
10*5 = 50
10*6 = 60
10*7 = 70
10*8 = 80
10*9 = 90
10*10 = 100

```

In [5]: #6
# Function to compute grade based on percentage
def compute_grade(marks):
    if any(mark < 40 for mark in marks): # Check if any subject has marks
        below 40
        return "Fail"

    aggregate = sum(marks) / len(marks) # Calculate aggregate percentage

    if aggregate > 75:
        return "Distinction"
    elif 60 <= aggregate <= 75:
        return "First Division"
    elif 50 <= aggregate < 60:
        return "Second Division"
    elif 40 <= aggregate < 50:
        return "Third Division"
    else:
        return "Fail"

# Taking input for five subjects
marks = []
for i in range(5):
    mark = int(input(f"Enter marks for subject {i+1}: "))
    marks.append(mark)

# Compute grade
grade = compute_grade(marks)

# Display result
print("\nStudent's Result:")
print(f"Marks: {marks}")
print(f"Aggregate Percentage: {sum(marks)/5:.2f}%")
print(f"Grade: {grade}")

```

```

Enter marks for subject 1: 60
Enter marks for subject 2: 70
Enter marks for subject 3: 80
Enter marks for subject 4: 90
Enter marks for subject 5: 50

```

```

Student's Result:
Marks: [60, 70, 80, 90, 50]
Aggregate Percentage: 70.00%
Grade: First Division

```

```

In [8]: #7 fibonacci series
def fibonacci(n):
    if n <= 1:
        return n
    return fibonacci(n-1) + fibonacci(n-2)
terms = int(input("Enter the number of terms:"))
for i in range(terms):
    print(fibonacci(i),end=" ")

```

```

Enter the number of terms:5
0 1 1 2 3

```

In []: