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#Lab-3 Sample programs
"""
Your Name and ID
420-LCU Computer Programming Lab 3
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"""

#Q1
#Input 2 integers and 1 float, calculate and print sum and product
n1=int(input("enter an integer:"))
n2=int(input("enter an integer:"))
n3=float(input("enter a float:"))

Sum=n1+n2+n3
product=n1*n2*n3

print("You have entered:",n1,",",n2,",",n3)
print("The sum is:",Sum,"and the product is:",product)
print() # print an empty line after each question. Not required

#Question: What result do you get if you enter an
#integer value for the 3rd number?
#Answer: If you use the function float() to typecast the integer input into a float,
#the result of both product and sum operations would be still a float.
#If you do not typecast the result using float(), the result would be integer.

#Q2
#Ask the user to enter an integer y between 12 and 20.
#Print the number in decimal, binary and hex.
n=int(input("Enter an integer between 12 and 20:"))
print("The number in decimal is: ",n)
print("The number in binary is: ",bin(n))
print("The number in hex is: ",hex(n))
print()

#Q3
#Sum of Cubes
z=int(input("enter a number:"))
counter=1
total=0
while (counter<=z):
    total=total+counter**3 # total +=counter**3
    counter +=1
print("sum of cubes for",z,"=",total)
print()

#Q4
n=int(input("enter a number "))
if (n>0):
    print("The number is positive")
elif (n<0):
    print("The number is negative")
elif (n==0):
    print("The number is equal to zero")
print()

#Q5
n=int(input("enter a number "))
#if n is even print number is even
if (n%2 == 0):
    print(n,"is even")
else:
    print(n,"is odd")
print()

#Q6
grade = int(input("enter the grade: "))
if (grade >= 93):
    letter_grade="A"
elif (84<=grade<=93):
    letter_grade="B"
elif (75<=grade<=83):
    letter_grade="C"
elif (60<=grade<=74):
    letter_grade="D"
else:
    letter_grade="F"
print("Your numeric grade is",grade)
print("Your letter grade is",letter_grade)
print()

#Q7 - Note that * and % have the same precedence
#calculation performed left to right.
# 19//5 = 3, tmp=float(3) = 3.0, val= 3.0*3%5 = 9.0%5=4.0==> val=4.0
#
#Q8
#program 1 prints:
#too hot
#program 1 executes the if statement only, elif and else not executed.

#program 2 prints:
#too hot
#just right
#program 2 executes all if statements.
#The coditions of the first 2 if statements are satisfied and executed.
```