week2_programs

January 15, 2025

[1]:
```
"""1. Last week you wrote a program that printed out a cheery greeting␣
 ↪including your name. Take a copy of it, and modify it so that the user␣
 ↪enters their name at the keyboard, and then receives a greeting. For example:
 ↪
Hello, what is your name? Mr Apricot
Hello, Mr Apricot. Good to meet you!"""
def display():
    username=input_name()
    print(f"Hello, {username}. Good to meet you!")
def input_name():
    name=input("Hello,what is your name?")
    return name
display()
```

```
Hello,what is your name? Susmita Sangraula
```

```
Hello, Susmita Sangraula. Good to meet you!
```

[2]:
```
"""2. Write a program that prompts a user to enter a temperature in Celsius,␣
 ↪and then displays the corresponding temperature in Fahrenheit, like so:
Enter a temperature in Celsius: 32.5
32.5C is equivalent to 90.5F. """
def temp(celsius):
    return (9/5) * celsius + 32
def display(celsius):
    far=temp(celsius)
    print(f"{celsius}°C is equivalent to {far}°F.")
def user_input():
    celsius=float(input("Enter a temperature in Celsius:"))
    return celsius
celsius=user_input()
display(celsius)
```

```
Enter a temperature in Celsius: 32.5
```

```
32.5°C is equivalent to 90.5°F.
```

[6]:
```

```

```
"""3. The Head of Computing at the University of Poppleton is tasked with␣
 ↪dividing a group of students into lab groups. A lab group is usually 24␣
 ↪students, but this is sometimes varied to create groups of similar size.␣
 ↪Write a program that prompts for the number of students and group size, and␣
 ↪then displays how many groups will be needed and how many will be left over␣
 ↪in a smaller group.
How many students? 113
Required group size? 22
There will be 5 groups with 3 students left over. For bonus credit, see if you␣
 ↪can fix the grammar in the output. So if there were 101 students in groups␣
 ↪of 20 the output would be:
There will be 5 groups with 1 student left over."""


def groups(no_of_students, group_size):
    no_of_group = no_of_students // group_size
    left_over_students = no_of_students % group_size

    group_label = "group" if no_of_group <= 1 else "groups"
    student_label = "student" if left_over_students <= 1 else "students"
    return no_of_group,left_over_students,group_label,student_label
def user_input():
    no_of_students = int(input("How many students? "))
    group_size = int(input("Required group size? "))
    return no_of_students, group_size
def display(no_of_students, group_size):
   ␣
 ↪no_of_group,left_over_students,group_label,student_label=groups(no_of_students,␣
 ↪group_size)
    print(f"There will be {no_of_group} {group_label} with {left_over_students}␣
 ↪{student_label} left over.")

no_of_students, group_size = user_input()
display(no_of_students, group_size)
```

```
How many students?  22
Required group size?  7
```

```
There will be 3 groups with 1 student left over.
```

[3]:
```
"""4. A kindly teacher wishes to distribute a tub of sweets between her pupils.␣
 ↪She will first count the sweets and then divide them according to how many␣
 ↪pupils attend that day. Write a program that will tell the teacher how many␣
 ↪sweets to give to each pupil, and how many she will have left over. """
def division(sweets,pupils):
    sweets_to_give=int(sweets/pupils)
    left_over=sweets%pupils
```

```
    sweets_label="sweet"if sweets_to_give <=1 else "sweets"
    left_over_label="sweet" if left_over <=1 else "sweets"
    return sweets_to_give, sweets_label, left_over, left_over_label
def user_input():
    sweets=int(input("Enter the number of sweets:"))
    pupils=int(input("Enter the number of pupils:"))
    return sweets,pupils
def display(sweets,pupils):
    sweets_to_give, sweets_label, left_over, left_over_label = division(sweets,␣
 ↪pupils)
    print(f"You should give {sweets_to_give} {sweets_label} and you will have␣
 ↪{left_over} {left_over_label} left over.")

sweets,pupils=user_input()
display(sweets,pupils)
```

```
Enter the number of sweets: 118
Enter the number of pupils: 22
```

```
You should give 5 sweets and you will have 8 sweets left over.
```