CONDITIONAL AND LOOPING STATEMENTS

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# Exercise 1
# Write a program that reads an integer value between 1 and 12 from the user and prints
output the corresponding month of the year.

months = ["January", "February", "March", "April", "May", "June", "July", "August",
"September", "October", "November","December"]
month_number = int(input("Enter the month: "))
if 1 <= month_number <= 12:
    print(f"Month {month_number} is {months[month_number - 1]}")
else:
    print("Error: Please enter a number between 1 and 12.")
```

output:

```
Enter the month: 5
Month 5 is May

Process finished with exit code 0
```

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# Exercise 2
# A certain cinema currently sells tickets for a full price of 6 pounds, but always sells
tickets for half price to people
# who are less than 16 years old, and for a third of the price for people who are 60
years old or more.



months = ["January", "February", "March", "April", "May", "June", "July", "August",
"September", "October","November", "December"]
month_number = int(input("Enter the month: "))
if 1 <= month_number <= 12:
        print(f"Month {month_number} is {months[month_number - 1]}")
else:
        print("Error: Please enter a number between 1 and 12.")

full_price = 6.0

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

  # Determine ticket cost based on age
if Age < 16:
```

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        cost = full_price / 2
elif Age >= 60:
        cost = full_price / 3
else:
        cost = full_price

print(f"Your ticket costs £{cost:.2f}")
```

output:

```
Enter the month: 5
Month 5 is May
Enter your age: 64
Your ticket costs £2.00
```

```
# Exercise 3
# Name your file: BodyMassIndex.py
# Write a program to calculate your BMI and give weight status. Body Mass Index (BMI) is
an internationally used measurement
# to check if you are a healthy weight for your height.The metric BMI formula accepts
weight in kilograms and height in meters:
# BMI= weight(kg)/height2(m2)
# BMI Weight Status Categories table
# BMI range - kg/m2   Category
# Below 18.5 Underweight
# 18.5 -24.9 Normal
# 25 - 29.9 Overweight
# 30 & Above Obese



weight = float(input("Enter your weight in (kg): "))
height = float(input("Enter your height in (m): "))

bmi = weight/(height*2)

if bmi < 18.5:
            category = "Underweight"
elif 18.5 <= bmi < 24.9:
            category = "Normal"
elif 25 <= bmi < 29.9:
            category = "Overweight"
else:
            category = "Obese"

#result
```

```
print(f"\nYour BMI is: {bmi:.2f}")
print(f"You are in the \"{category}\" range.")
```

output:

```
Enter your weight in (kg): 75
Enter your height in (m): 1.70

Your BMI is: 22.06
You are in the "Normal" range.
```

```
# Exercise 4
# Write a Python program to receive 3 numbers from the user and print the greatest among them



num1 = int(input("Enter the first number: "))
num2 = int(input("Enter the second number: "))
num3 = int(input("Enter the third number: "))

if num1 >= num2 and num1 >= num3:
            greatest_num = num1
elif num2 >= num1 and num2 >= num3:
            greatest_num = num2
else:
            greatest_num = num3

print(f"The greatest number is: {greatest_num}")
```

output:

```
Enter the first number: 50
Enter the second number: 88
Enter the third number: 93
The greatest number is: 93
```

```
# Exercise 5
# Find the factorial of a given number using loops(note the number is received from the user)

number = int(input("Enter a number: "))
factorial = 1
for i in range(1, number + 1):
            factorial *= i
```

```
print(f"The factorial of {number} is: {factorial}")
```

output:

```
Enter a number: 7
The factorial of 7 is: 5040
```

```
# Exercise 6
# Reverse a number using while loop

num = int(input("Enter a number: "))
reversed_number = 0

while num != 0:
    reminder = num % 10
    reversed_number = reversed_number * 10 + reminder
    num //= 10

print("The Reversed Number is : " + str(reversed_number))
```

output:

```
Enter a number: 4501
The Reversed Number is : 1054
```

```
# Exercise 7
# Finding the multiples of a number using loop

number = int(input("Enter a number to find its multiples: "))
count = int(input("Enter how many multiples to display: "))

print(f"The first 10 multiples of {number} are:")
for i in range(1, count + 1):
        print(f"{number} x {i} = {number * i}")
```

output:

```
Enter a number to find its multiples: 5
Enter how many multiples to display: 10
The first 10 multiples of 5 are:
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
```

Exercise 8

```
# Write a program to print the inputted value as it is and break the loop if the value is 'done'.
# Example run of the program
# :hello there
# hello there
# :finished
# finished
# :done
# Done

while True:
    user_input = input(":")
    print(user_input)
    if user_input.lower() == 'done':
        break
```

output:

```
:hello there
hello there
:hai
hai
:finished
finished
:done
done

Process finished with exit code 0
```

```
# Exercise 9
# Write a program that prints the numbers from 1 to 10.But for multiples of three print
"Fizz" instead of the number
# and for the multiple of five print "Buzz".For numbers which are multiples of both three
and five print "FizzBuzz"



limit = int(input("Enter the range up to which numbers displayed: "))
for number in range(1, limit + 1):
    if number % 3 == 0 and number % 5 == 0:
        print("FizzBuzz")
    elif number % 3 == 0:
        print("Fizz")
    elif number % 5 == 0:
        print("Buzz")
    else:
        print(number)
```

Output:

```
Enter the range up to which numbers displayed: 15
1
2
Fizz
4
Buzz
Fizz
7
8
Fizz
Buzz
11
Fizz
13
14
FizzBuzz

Process finished with exit code 0
```

```
# Exercise 10
# Write a program to print the following pattern:
#
# 54321
```

```python
# 4321
# 321
# 21
# 1

for i in range(5, 0, -1):
    for j in range(i, 0, -1):
        print(j, end=" ")
    print()
```

output:

```
5 4 3 2 1
4 3 2 1
3 2 1
2 1
1

Process finished with exit code 0
```