

Python Assignment 1

Instructions

1. Solve each question and test your code.
 2. Each question should be solved in a separate file.
 3. Create two folders:
 - `Conditional_Statements` for Part 1 questions
 - `Loops` for Part 2 questions
 4. Upload your completed assignment to GitHub.
 5. Write a LinkedIn post sharing your work and insights on this assignment.
 6. Submit both your GitHub repository URL and LinkedIn post URL in the Google Form (link to be shared soon).
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Part 1: Conditional Statements (20 Questions)

1. Write a program that checks if a given number is positive, negative, or zero.
2. Take a user's age as input and display whether they are a minor, adult, or senior citizen.
3. Write a program that checks if a given year is a leap year.
4. Take an integer and check if it's even or odd.
5. Ask the user for a grade percentage and display the corresponding letter grade (A, B, C, D, F).
6. Write a program to find the largest of two numbers.
7. Write a program to find the largest of three numbers.
8. Create a program that checks if a given string is a palindrome.
9. Take three sides of a triangle as input and check if they form a valid triangle.
10. Write a program to determine if a given character is a vowel or consonant.
11. Check if a given number is a multiple of both 3 and 5.
12. Write a program that takes a temperature in Celsius and checks if it's freezing, moderate, or hot.
13. Take two numbers and an operator (+, -, *, /) as input and perform the corresponding operation.
14. Check if a year input by the user is a century year.
15. Write a program to check if a number is within a specified range.
16. Take the length of three sides and classify the triangle (equilateral, isosceles, or scalene).
17. Write a program that asks for an integer and checks if it's divisible by 2, 3, or both.
18. Take a user's score and determine if they pass or fail (pass if 50 or above).
19. Check if a string input is uppercase, lowercase, or a mix.
20. Create a program that evaluates if an inputted number is prime.

Part 2: Loops (20 Questions)

1. Print numbers from 1 to 20 using a `for` loop.
2. Use a `while` loop to print even numbers from 1 to 50.
3. Write a program to calculate the sum of all numbers between 1 and 100.
4. Print the multiplication table of a given number.
5. Print all odd numbers between 1 and 100 using a loop.
6. Use a `for` loop to print each character of a string.
7. Find the factorial of a number using a `while` loop.
8. Use a `for` loop to print numbers from 10 down to 1.
9. Write a program to print the first 10 Fibonacci numbers.
10. Use a loop to count the number of digits in an integer.
11. Print the reverse of a given number.
12. Print all prime numbers between 1 and 50.
13. Use nested loops to print a pyramid pattern of `*`.
14. Write a program that breaks the loop when a certain condition is met.
15. Print the sum of even and odd numbers separately up to a given number.
16. Create a program to calculate the sum of the digits of an inputted integer.
17. Write a program that continues to ask for a number until the correct number is guessed.
18. Use a loop to print numbers in reverse order within a given range.
19. Use a `for` loop to print the square of each number from 1 to 10.
20. Create a program that simulates a countdown timer starting from a given number down to zero.

These questions will reinforce concepts of conditional statements and loops. Please test your code thoroughly and ask for help in the discussion group if you have any questions.