**PYTHON EXERCISE - 1**

1.Fizzbuzz challenge  
number = int(input("enter a number:"))  
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)

**2. Login Simulation**  
correct\_username = "admin"  
correct\_password = "1234"  
attempts = 0  
max\_attempts = 3  
while attempts<max\_attempts:  
 username = input("Enter the username: ")  
 password = input("Enter the password: ")  
  
 if username == correct\_username and password == correct\_password:  
 print("Logged in successfully")  
 break  
 else:  
 attempts += 1  
 print("Credentials invalid, attempts left:", {max\_attempts - attempts})  
if max\_attempts == attempts:  
 print("Login failed")

**3. Palindrome checker**  
word = input("enter a word: ")  
rev = (word[::-1])  
  
if word == rev:  
 print("it is a palindrome")  
else:  
 print("it is not a palindrome")

**# 4. prime numbers in a range**  
n = int(input("Enter a number: "))  
print("Prime numbers from 1 to", n, "are:")  
  
for number in range(2, n + 1):  
 count = 0  
 for i in range(1, number + 1):  
 if number % i == 0:  
 count += 1  
 if count == 2:  
 print(number)

**5. Star pyramid**  
n = int(input("Enter a number: "))  
for i in range(1, n+1):  
 print("\*" \* i)

**6. Sum of digits**  
n = input("Enter a number: ")  
sum = 0  
for i in n:  
 sum += int(i)  
print("sum of digits: ", sum)  
  
  
**7. Multiplication Table Generator**  
number = int(input("Enter a number: "))  
print("Multiplication table of ", number, " is")  
for i in range(1, 11, 1):  
 val = i\*number  
 print(i, "\*", number, " = ", val)  
 i += 1

**# 8. Count vowels in a string**  
sentence=input("Enter a sentence: ")  
vowels= "aeiouAEIOU"  
count=0  
for char in sentence:  
 if char in vowels:  
 count+=1  
print("Number of vowels: ", count)

**PYTHON EXERCISE – 2**

**1. BMI Calculator**  
import math  
weight = float(input("Enter the weight in kg: "))  
height = float(input("Enter the height in m: "))  
  
def BMI\_calc(weight, height):  
 bmi = weight/math.pow(height,2)  
 return bmi

bmi= BMI\_calc(weight, height)  
print("Your BMI is: ",round(bmi,2))

if (bmi<=18.4):  
 print("Under weight")  
elif (bmi>=18.5 and bmi<=24.8):  
 print("Normal")  
else:  
 print("Over weight")

**2. Strong Password Checker**special\_characters = "!@#$\_"  
while True:  
 password=input("Enter the password: ")  
 has\_upper = False  
 has\_number = False  
 has\_special = False  
  
 for char in password:  
 if char.isupper():  
 has\_upper = True  
 if char.isdigit():  
 has\_number = True  
 if char in special\_characters:  
 has\_special = True  
  
 if has\_upper and has\_number and has\_special:  
 print("Strong Password!")  
 break  
 else:  
 print("Weak password. Make sure it has:")  
 print("- At least 1 capital letter")  
 print("- At least 1 number")  
 print(f"- At least 1 special character ({special\_characters})")

**3. Weekly Expense Calculator**  
expenses= []  
for i in range(7):  
 amount = float(input(f"Enter expense for day: "))  
 expenses.append(amount)  
  
total = sum(expenses)  
average = total / len(expenses)  
highest = max(expenses)  
  
print("\nExpense Report:")  
print("Total spent: ", total)  
print("Average per day: ", round(average, 2))  
print("Highest spend in a day: ", highest)

**4. Guess the Number**

import randomsecret\_number = random.randint(1, 50)attempts = 0max\_attempts = 5while attempts < max\_attempts: guess = int(input("Guess the number (1 to 50): ")) attempts += 1 if guess == secret\_number: print("Correct! You guessed it in", attempts, "tries.") break elif guess < secret\_number: print("Too Low!") else: print("Too High!")if guess != secret\_number: print(" Out of attempts! The number was:", secret\_number)**5. Student Report Card**import datetimedef calculate\_total(marks): return sum(marks)def calculate\_average(marks): return sum(marks) / len(marks)def get\_grade(avg): if avg >= 90: return "A" elif avg >= 75: return "B" else: return "C"name = input("Enter student name: ")subjects = ["Math", "Science", "English"]marks = []for subject in subjects: score = float(input(f"Enter marks for {subject}: ")) marks.append(score)total = calculate\_total(marks)average = calculate\_average(marks)grade = get\_grade(average)today = datetime.date.today()print("\n--- Report Card ---")print("Name:", name)print("Date:", today)print("Total Marks:", total)print("Average:", round(average, 2))print("Grade:", grade)**6. Contact Saver**contacts = {}while True: print("\n--- Contact Saver ---") print("1. Add Contact") print("2. View Contacts") print("3. Save & Exit") choice = input("Enter your choice (1/2/3): ") if choice == "1": name = input("Enter contact name: ") phone = input("Enter phone number: ") contacts[name] = phone elif choice == "2": print("\nSaved Contacts:") for name, phone in contacts.items(): print(f"{name}: {phone}") elif choice == "3": with open("contacts.txt", "w") as file: for name, phone in contacts.items(): file.write(f"{name}:{phone}\n") print("Contacts saved to contacts.txt. Goodbye!") break else: print("Invalid choice. Please enter 1, 2, or 3.")