



Revision

1. Write a program to check whether password is strong or not

```
def checker(password):  
    minimum_length = 7  
    special_character = ['@', '#', '%', '*', '&', '^', '$']  
  
    valid_length = len(password) >= minimum_length  
    required_character = any(char in password for char in  
special_character)  
  
    if valid_length and required_character:  
        print("Password is strong!")  
    else:  
        print("Password is weak try again!")  
  
password = input("Enter a password to check: ")  
checker(password)
```

Enter a password to check: P@ssword123
Password is strong!

2. Write a program to convert a temperature from Celsius to Fahrenheit and vice versa.

```
def convert_to_F(C):  
    F = (C * 9/5) + 32
```

```

    print("Fahrenheit is ",F)

def convert_to_C(F):
    C = (F -32) * 5/9
    print("Celsius is ",C)

input_from_user = int(input("Choose 1. C --> F or 2. F --> C"))

if input_from_user == 1:
    C = int(input("Enter Celsius: "))
    convert_to_F(C)
elif input_from_user == 2:
    F = int(input("Enter Fahrenheit: "))
    convert_to_C(F)
else:
    print("Please enter a valid option")

Choose 1. C --> F or 2. F --> C1
Enter Celsius: 107
Fahrenheit is  224.6

```

3. Write a program to calculate the area and perimeter of a rectangle.

```

def rectangle(l,b):
    area = l * b
    perimeter = 2 * (l + b)
    print("Area of a rectangle is ",area)
    print("Perimeter of a rectangle is ",perimeter)

l = 10
b = 20
rectangle(l,b)

Area of a rectangle is  200
Perimeter of a rectangle is  60

```

4. Write a program to guess a random number between 1 and 100.

```

import random

def guess_the_number():
    secret_number = random.randint(1, 100)
    guesses = 0

    while True:
        try:
            guess = int(input("Enter your guess (between 1 and 100):
"))
        except ValueError:

```

```

        print("Please enter a valid number.")
        continue

    guesses += 1

    if guess == secret_number:
        print(f"Congratulations! You guessed the number in {guesses} guesses!")
        break
    elif guess < secret_number:
        print("Your guess is too low.")
    else:
        print("Your guess is too high.")

guess_the_number()

Enter your guess (between 1 and 100): 70
Your guess is too high.
Enter your guess (between 1 and 100): 50
Your guess is too high.
Enter your guess (between 1 and 100): 15
Your guess is too low.
Enter your guess (between 1 and 100): 30
Your guess is too high.
Enter your guess (between 1 and 100): 22
Your guess is too high.
Enter your guess (between 1 and 100): 18
Your guess is too low.
Enter your guess (between 1 and 100): 20
Congratulations! You guessed the number in 7 guesses!

```

5. Write a Python function to sum & average all the numbers in a list.

```

def number(a):
    n = len(a)
    sumup = sum(a)
    average = sumup / n
    print("Sum: ", sumup)
    print("Average: ", average)

a = (7, 5, 6, 0, 4, 1, 9, 8, 2, 4, 0, 7, 9, 2, 5, 8)
number(a)

Sum: 77
Average: 4.8125

```

6. Write a Python program to interchange first and last elements in a list

```
def interchange(a):  
    first = a[0]  
    end = a[-1]  
    a[0] = end  
    a[-1] = first  
    return a  
  
a = ['z', 'a', 'h', 'i', 'd', 's']  
interchange(a)  
  
['s', 'a', 'h', 'i', 'd', 'z']
```

7. Write a Python program to find the smallest number in a list:

```
numbers = [15, 7, 3, 12, 9, 23, 27, 2, 14]  
  
largest = max(numbers)  
smallest = min(numbers)  
  
print(f"The smallest number in the list is: {smallest}")  
print(f"The largest number in the list is: {largest}")  
  
The smallest number in the list is: 2  
The largest number in the list is: 27
```

8. Write a Python program to find the given input is numeric, characters or alphanumeric

```
def check_digit_alpha_alphanum(a):  
    digit = a.isdigit()  
    alpha = a.isalpha()  
    alphanum = a.isalnum()  
  
    if digit == True:  
        print(a, "contains numbers!")  
    elif alpha == True:  
        print(a, "contains characters!")  
    elif alphanum == True:  
        print(a, "contains both numbers and characters!")  
  
a = 'abc'  
b = '123'  
c = 'abc123'  
check_digit_alpha_alphanum(a)  
check_digit_alpha_alphanum(b)  
check_digit_alpha_alphanum(c)
```

```
abc contains characters!  
123 contains numbers!  
abc123 contains both numbers and characters!
```