3 Assignment 3 - 17 11 23

Level 1

1. Write a program to create a function show_employee() using the following conditions.

- It should accept the employee's name and salary and display both.
- If the salary is missing in the function call then assign default value 50,000 to salary

[3]:
```
def show_employee(name,salary=50000):
    print(f"Employee Name: {name}")
    print(f"Employee Salary: {salary}")

name = input("Enter employee name:")
salary = int(input("Enter employee salary:"))
show_employee(name)
```

```
Enter employee name: sai
Enter employee salary: 60000

Employee Name: sai
Employee Salary: 50000
```

2. Write a Python programme to Print First 10 natural numbers using while loop

[9]:
```
# Approach 1
n = int(input("Enter range of natural numbers you want to get:"))
num = 1
while num<=n:
    print(num)
    num+=1
```

```
Enter range of natural numbers you want to get: 4

1
2
3
4
```

[10]:
```
# Approach 2
n = int(input("Enter range of natural numbers you want to get:"))
while n>0:
    print(n)
    n -= 1
```

```
Enter range of natural numbers you want to get: 5

5
4
3
```

```
2
1
```

3. Write a program to print multiplication table of a given number

[14]:
```
n = int(input("Enter number for multiplication table:"))
for i in range(0,11):
    print(f"{n} * {i} = {n*i}")
```

```
Enter number for multiplication table: 10

10 * 0 = 0
10 * 1 = 10
10 * 2 = 20
10 * 3 = 30
10 * 4 = 40
10 * 5 = 50
10 * 6 = 60
10 * 7 = 70
10 * 8 = 80
10 * 9 = 90
10 * 10 = 100
```

4. Write a program to count the total number of digits in a number using a while loop

[18]:
```
n = int(input("Enter number:"))
count = 0
while n>0:
    n //= 10
    count += 1
print(count)
```

```
Enter number: 987452631

9
```

5. Given two integer numbers, return their product only if the product is equal to or lower than 1000. Otherwise, return their sum.

[21]:
```
a = int(input("Enter integer number 1:"))
b = int(input("Enter integer number 2:"))
if a*b <= 1000:
    print(a*b)
else:
    print(a+b)
```

```
Enter integer number 1: 400
Enter integer number 2: 400

800
```

6. Write a Python programme to calculate Income tax of an employee following the below criteria.

- 5 Lakhs - 10%
- 5 -7 Lakhs - 20%
- 7-10 Lakhs - 30%
- >15 Lakhs - 40%

[25]:
```
salary = int(input("Enter the total earnings:"))
if salary == 500000:
    print(f"Income Tax to be paid: {salary*0.1}")
elif salary >= 500000 and salary <= 700000:
    print(f"Income Tax to be paid: {salary*0.2}")
elif salary >= 700000 and salary <= 1000000:
    print(f"Income Tax to be paid: {salary*0.3}")
elif salary > 1500000:
    print(f"Income Tax to be paid: {salary*0.4}")
```

```
Enter the total earnings: 500000
```

```
Income Tax to be paid: 50000.0
```

8. Write a python programme to Count all letters, digits, and special symbols from a given string

[56]:
```
string = input("Enter string here:")
digit = 0
letters = 0
special = 0
for i in string:
    if i.isdigit():
        digit += 1
    elif i.isalpha():
        letters += 1
    else:
        special += 1
print(f"There are \n{digit} digits\n{letters} letters\n{special} special␣
 ↪characters")
```

```
Enter string here: &8*4#kgf
```

```
There are
2 digits
3 letters
3 special characters
```

Level 2

1. Write a program to iterate the first 10 numbers, and in each iteration, print the sum of the current and previous number.

[33]:
```
# It is an example of Fibonacci Series
first = 0
second = 1
```

```
for _ in range(10):
    n1 = first + second
    first = second
    second = n1
    print(n1,end=" ")
```

```
1 2 3 5 8 13 21 34 55 89
```

2. Write a program to accept a string from the user and display characters that are present at an even index number.

[34]:
```
str = input("Enter the string:")
for i in str:
    if str.index(i) % 2 == 0:
        print(i)
```

```
Enter the string: string

s
r
n
```

3. Given two list of numbers, write a program to create a new list such that the new list should contain odd numbers from the first list and even numbers from the second list

[36]:
```
list1 = list(map(int,input("Enter numbers of list 1 separated by space:").
 ↪split(" ")))
list2 = list(map(int,input("Enter numbers of list 2 separated by space:").
 ↪split(" ")))
new_odd = []
new_even = []
for i in list1:
    if i % 2 != 0:
        new_odd.append(i)
for j in list2:
    if j % 2 == 0:
        new_even.append(j)

print("Odd numbers from list 1:",new_odd)
print("Even numbers from list 2:",new_even)
```

```
Enter numbers of list 1 separated by space: 3 5 7 1 4
Enter numbers of list 2 separated by space: 7 8 9 11 2 3

Odd numbers from list 1: [3, 5, 7, 1]
Even numbers from list 2: [8, 2]
```

4. Write a program to add two lists index-wise. Create a new list that contains the 0th index item from both the list, then the 1st index item, and so on till the last element. any leftover items will get added at the end of the new list.

[47]:
```
list1 = list(input("Enter numbers of list 1 separated by space:").split(" "))
list2 = list(input("Enter numbers of list 2 separated by space:").split(" "))
print("List1:",list1)
print("List2:",list2)
new_list = []
min_length = min(len(list1), len(list2))
for i in range(min_length):
    new_list.append(list1[i] + list2[i])

if len(list1) > len(list2):
    new_list.extend(list1[min_length:])
else:
    new_list.extend(list2[min_length:])

print("Output:",new_list)
```

```
Enter numbers of list 1 separated by space: M na i Ri
Enter numbers of list 2 separated by space: y me s A 4 3 5 t h jji
```

```
List1: ['M', 'na', 'i', 'Ri']
List2: ['y', 'me', 's', 'A', '4', '3', '5', 't', 'h', 'jji']
Output: ['My', 'name', 'is', 'RiA', '4', '3', '5', 't', 'h', 'jji']
```

5. Write a Python program to return a new set with unique items from both sets by removing duplicates.

[49]:
```
set1 = set(map(int,input("Enter numbers of Set1 separated by space:").split("␣
↪")))
set2 = set(map(int,input("Enter numbers of Set2 separated by space:").split("␣
↪")))
new_set = set1.union(set2)
print(new_set)
```

```
Enter numbers of Set1 separated by space: 3 4 5 6 8 9
Enter numbers of Set2 separated by space: 2 3 4 6 99 9
```

```
{2, 3, 4, 5, 6, 99, 8, 9}
```

6. Write a program to unpack the following tuple into four variables and display each variable

[50]:
```
tuple = tuple(input("Enter 4 tuple elements separated by space:").split(" "))
(var1, var2, var3, var4) = tuple
print(var1)
print(var2)
print(var3)
print(var4)
```

```
Enter 4 tuple elements separated by space: 4 5 6 7
```

```
4
5
```

6
7

7. Write a function to return True if the first and last number of a given list is the same. If numbers are different then return False.

[51]:
```
def check(num):
    if num[0] == num[-1]:
        return True
    else:
        return False

num = input("Enter number:")
check(num)
```

```
Enter number: 45784
```

[51]:
```
True
```

8. Write a program to check if the given number is a palindrome number.

- A palindrome number is a number that is the same after reverse. For example, 545, is the palindrome numbers

[55]:
```
n = input("Enter number:")
if n == n[::-1]:
    print(f"{n} is a palindrome")
else:
    print(f"{n} is not a palindrome")
```

```
Enter number: bob
```

```
bob is a palindrome
```

[ ]: