Lab-03- Syed Taha Jameel

Task 1 Age Group Classifier

```
age = int(input("Enter your Age: "))
if age >= 0 and age <= 12:
  print("You are a child")
elif age >= 13 and age <= 19:
  print("You are a teenager")
elif age >= 20 and age <= 59:
  print("You are an adult")
else:
  print("You are a senior")
```

```
Enter your Age: 12
You are a child
```

Task 2 Grading System

```
score = int(input("Enter your score: "))
if score >= 90:
 grade = "A"
elif score >= 80:
 grade = "B"
elif score >= 70:
 grade = "C"
elif score >= 60:
 grade = "D"
else:
 grade = "F"
print(f"Your grade is {grade}.")
```

```
Enter your score: 90
Your grade is A.
```

Task 3 Skipping even number using continue

```
for i in range(1,11):
  if (i % 2 == 0):
    continue
  print(i)
```

```
1
3
5
7
9
```

Task 4 Breaking Loop using certain condition (break)

```
while True:
  num = eval(input("Enter a number: "))
  if num < 0:
    print("loop terminated")
    break
```

```
Enter a number: -1.02
loop terminated
```

Task 5 Using Pass

```
def check_even(number):
  if number % 2 == 0:
    pass
  else:
    print("odd nuumber")


num = int(input("Enter a number"))
check_even(num)
```

```
Enter a number3
odd nuumber
```

Task 6 Using enumerate

```
fruits = ["apple","banana", "cherry"]
for index, fruit in enumerate(fruits):
  print(f"{index}:{fruit}")


# Using while loop
counter = 5
while counter > 0:
  print(f"Countdown: {counter}")
  counter-=1
```

```
0:apple
1:banana
2:cherry
Countdown: 5
```

```
Countdown: 4
Countdown: 3
Countdown: 2
Countdown: 1
```

Increment Decrement

```
a = 5
a = a ++ 1
print(a)
a = a -- 1
print(a)
a = a +- 1
print(a)
a = a -+ 1
print(a)
```

```
6
7
6
5
```

```
# Case 1: ++1
num = 5
num += 1  # Increment by 1
print(f"After ++1, num = {num}")

# Case 2: --1
num = 5
num -= 1  # Decrement by 1
print(f"After --1, num = {num}")

# Case 3: +-1
num = 5
num += 1  # Increment by 1
num -= 1  # Decrement by 1
print(f"After +-1, num = {num}")

# Case 4: -+1
num = 5
num -= 1  # Decrement by 1
num += 1  # Increment by 1
print(f"After -+1, num = {num}")
```

```
After ++1, num = 6
After --1, num = 4
After +-1, num = 5
After -+1, num = 5
```

```
i = 5
ipp = ++ i
print(ipp)

ipp = -- i
print(ipp)
```

```
ipp = +- i
print(ipp)

ipp = -+ i
print(ipp)
```

```
5
5
-5
-5
```

Task 7 Login Authentication

```
username = input("ENter username : ")
password = input("ENter Password : ")

if username == "admin":
  if password =="abcd":
    print("access granted")
  else:
    print("wrong password")
else:
  print("wrong username")
```

```
ENter username : admin
ENter Password : abcd
access granted
```

Task 8 nested loop- multiplication table

```
for i in range(1,11):
  for j in range(1,2):
    print(f"{j} x {i} = {i*j}", end="\t")
  print()
```

```
1 x 1 = 1
1 x 2 = 2
1 x 3 = 3
1 x 4 = 4
1 x 5 = 5
1 x 6 = 6
1 x 7 = 7
1 x 8 = 8
1 x 9 = 9
1 x 10 = 10
```

Task 9 generating squared numbers

```
squares = [x**2 for x in range(1, 11)]
print(squares)
```

```
[1, 4, 9, 16, 25, 36, 49, 64, 81, 100]
```

Task 10 filtering even numbers

```
num = range(1,21)
even_num = [i for i in num if i % 2 == 0]
print(even_num)
```

```
[2, 4, 6, 8, 10, 12, 14, 16, 18, 20]
```

Task 11 using an iterator

```
var = [1,2,3,4]
var1 = iter(var)
print(next(var1))
print(next(var1))
print(next(var1))
print(next(var1))
```

```
1
2
3
4
```