

Study Sheet -4

Answer key

Lower Secondary
Stage (6-8)

1st Semester | 2023-2024

Subject: ICT

Chapter: 3

(Programming Language) List in Python

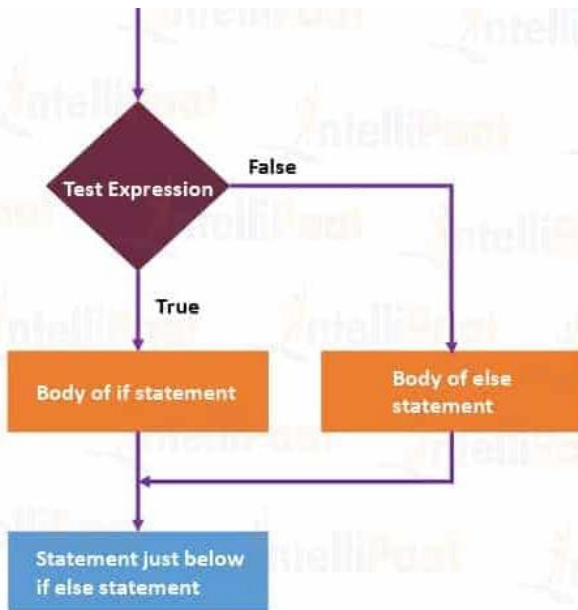
Grade: 7

Objectives:

- Use if statements to control whether or not a block of code is executed.
- Use else to execute a block of code when an if condition is not true.

Syntax of if ... else

```
if test expression:  
    Code to run when test expression is TRUE  
else:  
    Code to run when test expression is FALSE
```



The if...else statement evaluates the test expression

and will execute the body of if only when the test condition is True.

If the condition is False, the body of the else is executed.

What are Python Conditions?

Equals to: `x == y`

Less than or equal to: `x <= y`

Not Equals to: `x != y`

More than: `x > y`

Less than: `x < y`

More than or equal to: `x >= y`

Examples:

- 1- Write a program that:
 - a- Input the weather temperature
 - b- If the weather temperature is greater than 22 print the weather temperature and the word "Hot"
else print the weather temperature and the word "Cold"

```
1 weather_temp=int(input("Enter weather temperature="))
2 if weather_temp>22:
3     print(weather_temp,"Hot")
4 else:
5     print(weather_temp,"Cold")
```

- 2- Write a program that:
 - a- Calculate the area of a circle
 $Area=3.14*r^2$
 - b- If the area of the circle is bigger than 100 print "large circle"
else print "small circle"

```
1 r=int(input("Enter radius="))
2 #or you can write : r=float(input("Enter radius="))
3 Area=3.14*r*r
4 # or you can write : Area=3.14*r**2
5 if Area>100:
6     print("large circle")
7 else:
8     print("small circle")
```

- 3- Write a program that:
 - a. Input and print your name.
 - b. Input the 1st and the 2nd Mark then calculate and print the average.
 $Average = (first + second) / 2$Then
 - c. If the Average is greater than or equal to 50 print the word("Pass")
else print the word ("Fail")

```

1 name=input("Enter your name= ")
2 print(name)
3 first=float(input("Enter your first semester mark="))
4 second=float(input("Enter your first semester mark="))
5 # or you can write
6 #first=int(input("Enter your first semester mark="))
7 #second=int(input("Enter your first semester mark="))
8 Average = (first + second) / 2
9 print("Average=",Average)
10 if Average>=50:
11     print("Pass")
12 else:
13     print("Fail")

```

- 4- Write a program to check if a number is positive or negative.
 (If a number is greater than zero, it is a positive number. If a number is less than zero, it is a negative number.)

```

1 num = float(input("Enter a number: "))
2 if num > 0:
3     print( "Positive")
4 else:
5     print( "Negative")

```

**** Extra question not includes in the exam**

Write a program in python to check if a number is positive or negative. (If a number is greater than zero, it is a positive number. If a number is less than zero, it is a negative number. If the number is zero it is neutral)

```

1 num = float(input("Enter a number: "))
2 if num > 0:
3     print( "Positive")
4 elif num < 0:
5     print( "Negative")
6 else:
7     print( "Neutral")

```

- 5- Write a program that compares two numbers and prints the largest

```
1 num1 = float(input("Enter a first number: "))
2 num2 = float(input("Enter a second number: "))
3 if num1 > num2:
4     print(num1)
5 else:
6     print(num2)
```

- 6- Write a program that prints whether a number is odd or even You will need to find the remainder (Mod → % in Python)

Mod finds the remainder of the division

```
1 num=int(input("Enter number="))
2 if num %2==0:
3     print("even")
4 else:
5     print("odd")
```

- 7- Write a program that:
- Input your name.
 - Print your name.
 - Input your Birth_Year
 - Calculate your age.
 - If your age is greater than 18 print (I'm an Adult)
else print (I'm a child)

```
1 name=input("Enter your name= ")
2 print(name)
3 Birth_Year=int(input("Your Birth Year="))
4 age=2023-Birth_Year
5 if age>18:
6     print("I'm an Adult")
7 else:
8     print("I'm a child")
```