Unit 2 Decisions in Programming

IF

check for equality and inequality, multiple conditions (AND OR)

if statements: if condition_test:

do something

if-else statements: if condition_test:

do something

else allows you to define code to execute if condition_test is false

if-elif-else allow multiple conditions (only one path is executed)

In [ ]:
```
#input
year_now=int(input('In which year are we now? '))
#process
if (year_now == 2023):
    #output
    print('Welcome to the present ... 2023')
else:
    print('This is not this year!')
#contine exec here
```

In [ ]:
```
#input
your_age=int(input('What is your age today? '))
#process
if (your_age >= 18):
    #output
    print('You are eligible to vote')
else:
    print('You are not eligible to vote')
```

In [ ]:
```
#input (integer or float)
today_temp=int(input('Please input maximum temperature for today : '))
#process
if (today_temp >= 40):
    #output
    print('Today will be very hot')
else:
    print('Today will not be very hot')
```

In [ ]:
```

```

In [ ]:
```

```

In [ ]:
```
#input
the_weather=input('Please input the weather : ')
#process
if (the_weather == 'rain'):
    #output
    print('Please use an umbrella')
else:
    print('Umbrella not required')
```

In [ ]:
```
myAge=int(input('What is your age? '))
if myAge >= 18:
    print('You are an adult')
else:
    print('You are not an adult')
```

In [ ]:
```
# ensure that the entire range is covered
myAge=int(input('What is your age?'))
if myAge >= 21:
    print('You are an adult')
elif myAge > 13 and myAge <21:
    print(' You are a teenager')
else:
    print('You are neither a teenager nor an adult')
```

In [ ]:
```
# ensure that the entire range is covered multiple AND ORs
#WARNING>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

myAge=int(input('What is your age?  '))
myCoffee=input('Do you drink coffee? (Y/N) ')

if myCoffee.upper() =='Y':
    drinkCoffee = True
else:
    drinkCoffee = False

if drinkCoffee:
    if (myAge > 21):
        print('Adult coffee drinker')
    else:
        print('Non-adult coffee drinker')
else:
    if (myAge > 21):
        print('Adult non coffee drinker')
    else:
        print('neither adult nor coffee drinker')
```

In [ ]:
```
#Guess a number
nMyNumber = 101
nYourNumber = int(input('Input your integer number :'))
if nMyNumber ==nYourNumber:
    print('Correct well done!'')
else
    print('Sorry try again!')
```

In [ ]:

In [ ]:

introducing lists ...

In [ ]:
```
myClass=['henry', 'jane', 'mary', 'sibu', 'kabelo', 'dineo', 'andzani']
myName = input('What is your name? ')
if myName not in myClass:
    print('Sorry, your name does not appear on the class list!')
else:
    print('welcome to another class meeting.  The session shall start shortly
... \n')
```

In [ ]:
```
myClass=['henry', 'jane', 'tyron', 'sibu', 'kabelo', 'dineo', 'andzani']
myName = input('What is your name? ')
if myName not in myClass:
    print('Sorry %s, your name does not appear on the class list!' %(myName.ti
tle()))
else:
    print('Hello %s, and welcome to another class meeting.  The session shall
start shortly ... '  %(myName.title()))
```

In [ ]:
```
myPet = 'Kit'
yourPet = 'Cat'
if (len(myPet) == len(yourPet)):
    print('TRUE')
else:
    print('FALSE')
```

Problem. Calculate the cost of a ticket for a lecture on The AmaZing World of Python.

The cost depends on your age. Anyone younger than 12 is free, younger than 21 is R25.60, between 21 and 65 is R46.75, and 65 and older is free.

In [ ]:
```
#add your code here
```

Problem. Write a Python program that uses an IF statement. The program must prompt the user for the rainfall (in mm) today. The input value must determine and output a message to the user. If less than 15mm, then 'Very dry day', and more than 100mm then 'Very wet day', else 'Not dry and not wet day'.

In [ ]:
```
#add you code here
```