

2. Conditional Statements

October 17, 2022

1 Introduction

- Decision making is required when we want to execute a code only if a certain condition is satisfied.

2 if

if there is exam tomorrow, I will stay at home to study

```
[ ]: exam = False
      if exam == True:
          print("stay home n study")
          print(":(")
```

```
[ ]: # indentation must be same for all lines in code block
```

2.1 Syntax for if

```
if boolean_expression :
    statements
# this block of code will be executed if boolean_expression returns True
```

3 if...else

if there is exam tomorrow, I will stay at home to study; else I will play football on the playground

```
[ ]: exam = False
      if exam == True:
          print("I will stay at home to study")
          print("Oh :(")
      else:
          print("Play football")
          print("Yay...")
```

3.1 Syntax for if else

```
if boolean_expression :  
    statements  
    # this block of code will be executed if boolean_expression returns True  
  
else:  
    statements  
    # this block of code will be executed if boolean_expression returns False
```

3.2 Example

- Write a program to find whether a number is even or odd.

```
[ ]: num = int(input("Enter a number: "))  
  
if num % 2 == 0:  
    print('even')  
else:  
    print('odd')
```

4 Nested if...else

```
if boolean_expression 1 :  
    statements  
    # this block of code will be executed if boolean_expression 1 returns True  
  
elif boolean_expression 2 :  
    statements  
    # this block of code will be executed if boolean_expression 1 returns False and boolean_expression 2 returns True  
  
elif boolean_expression 3 :  
    statements  
    # this block of code will be executed if boolean_expression 1 & 2 returns False and boolean_expression 3 returns True  
  
.  
.  
.  
  
else:  
    statements  
    # this block of code will be executed if all boolean_expression returns False
```

4.1 Example

Write a program to decide whether to watch a movie based on its rating (Rating is given out of 5)
- Movie is a must watch if rating is 4 and above - Movie can be watched once if rating is 2.5 and above but less than 4 - Don't watch the movie if rating is less than 2.5

```
[ ]: rating = float(input("Enter movie rating(Out of 5): "))

if rating >= 4:
    print("it is a good move")
    print("Must watch")
elif rating >= 2.5 and rating < 4:
    print("Okay movie")
    print("you can watch it once")
elif rating < 2.5:
    print("Don't watch :(")
```

5 Ternary operator

- It simply allows to test a condition in a single line replacing the multiline if-else making the code compact

statement1 if expression else statement2

```
[ ]: age = 15
print('kid' if age < 18 else 'adult')
```

```
[ ]:
```