LAB-2

IF-ELSE

1. OBJECTIVE :

To find whether the number is even or not.

Program:

```
num = int(input("enter the number?"))
if num%2 == 0:
    print("Number is even")
print("bye")
```

OUTPUT:

```
enter the number?2
Number is even
bye
```

---

2. Objective:

To find largest among three numbers

Program:

```
a = int(input("Enter a- "))
b = int(input("Enter b- "))
c = int(input("Enter c- "))
if a>b and a>c:
         print("a is largest")
if b>a and b>c:
       print("b is largest")
if c>a and c>b:
        print("c is largest")
```

OUTPUT:

```
Enter a- 3
Enter b- 4
Enter c- 7
c is largest
```

---

3. Objective:

To check if one is eligible to vote

Program:

```
age = int (input("Enter your age? "))
if age>=18:
    print("You are eligible to vote !!")
else:
  print("Sorry! you have to wait !!")
```

OUTPUT:

```
Enter your age? 35
You are eligible to vote !!
```

---

4. Objective:

To check whether the number is even or odd

Program:

```
num = int (input("enter the number?"))
if num%2 == 0:
      print("Number is even...")
else:
      print("Number is odd...")
```

OUTPUT:

```
enter the number?57
Number is odd...
```

---

5. OBJECTIVE: Program to check if the entered number is equal to 10,50,100 or no.

Program:

```
number = int (input("Enter the number?"))
if number==10:
    print("number is equals to 10")
elif number==50:
    print("number is equal to 50")
elif number==100:
    print("number is equal to 100")
else:
    print("number is not equal to 10, 50 or 100")
```

OUTPUT:

```
Enter the number?78
number is not equal to 10, 50 or 100
```

```
Enter the number?50
number is equal to 50
```

---

6. Objective: Program to check the marks scored using if, elif

Program:

```
marks = int(input("Enter the marks? "))
if marks > 85 and marks <= 100:
```

```
    print("Congrats ! you scored grade A ...")
elif marks > 60 and marks <= 85:
   print("You scored grade B + ...")
elif marks > 40 and marks <= 60:
    print("You scored grade B ...")
elif (marks > 30 and marks <= 40):
     print("You scored grade C ...")
else:
    print("Sorry you are failed!")
```

OUTPUT:

```
Enter the marks? 89
Congrats ! you scored grade A ...
```

```
Enter the marks? 45
You scored grade B ...
```

STRINGS

```
var1 = 'Hello World!'
var2 = "Python Programming"
print(var1," ",var2)
```

```
Hello World!   Python Programming
```

```
var1 = 'Hello World!'
var2 = "Python Programming"

print (var1[0])
print (var2[1:5])
```

```
H
ytho
```

```
var1 = 'Hello World!'
print ("Updated String :- ", var1[0:6] + 'Shabnam')
```

```
Updated String :-  Hello Shabnam
```

```
str1 = input("Please Enter Your Own String : ")

str2 =  str1
str3 = str1[:]
str4 = str1[2:6]

print("The Final String : Str2  = ", str2)
print("The Final String : Str3  = = ", str3)
print("The Final String : Str4  = = ", str4)
```

```
Please Enter Your Own String : hello class
The Final String : Str2  =  hello class
The Final String : Str3  = =  hello class
The Final String : Str4  = =  llo
```

```
#Python String capitalize() method returns a copy of the string with on
ly its first character capitalized.
str = "this is string example....wow!!!";
print ("str.capitalize() : ", str.capitalize())

str.capitalize() :  This is string example... wow!!!
```

```
#center() returns centered in a string of length width. Padding is done
using the specified fillchar. Default filler is a space.


str = "this is string example....wow!!!"
print ("str.center(40, 'a') : ", str.center(40, '*'))

str.center(40, 'a') :  ****this is string example....wow!!!****
```

```
#count() returns the number of occurrences of substring sub in the rang
e [start, end].

#str.count(sub, start= 0,end=len(string))

str = "this is string example....wow!!!";

sub = "i";
print ("str.count(sub, 4, 40) : ", str.count(sub, 4, 40))
sub = "wow";
print ("str.count(sub) : ", str.count(sub))

str.count(sub, 4, 40) :  2
str.count(sub) :  1
```

```
#find() determines if string str occurs in string, or in a substring of
 string if starting index beg and ending index end are given.

#str.find(str, beg=0, end=len(string))

str1 = "this is string example....wow!!!";
str2 = "is";

print (str1.find(str2))
print (str1.find(str2, 10))
print (str1.find(str2, 40))

2
-1
-1
```

```
#index() determines if string str occurs in string or in a substring of
 string if starting index beg and ending index end are given.

str1 = "this is string example....wow!!!";
str2 = "exam";
```

```
print (str1.index(str2))
print (str1.index(str2, 10,32))
```

```
15
15
```

```
#isalnum() checks whether the string consists of alphanumeric character
s.

str = "this2009";  # No space in this string
print (str.isalnum())

str = "this is string example....wow!!!";
print (str.isalnum())
```

```
True
False
```

```
str = "ShabnamSharma";  # No space & digit in this string
print (str.isalpha())

str = "this is string example....wow!!!";
print (str.isalpha())
```

```
True
False
```

```
str = "123456";  # Only digit in this string
print (str.isdigit())

str = "this is string example....wow!!!";
print (str.isdigit())
```

```
True
False
```

```
str = "THIS is string example....wow!!!";
print (str.islower())

str = "this is string example....wow!!!";
print (str.islower())
```

```
False
True
```

```
str =  "this2009";
print (str.isnumeric())

str = "23443434";
print (str.isnumeric())
```

```
False
True
```

```
str = "  ";
print (str.isspace())

str = "This is string example....wow!!!";
print (str.isspace())
```

```
True
False
```

```
str = "This Is String Example...Wow!!!";
print (str.istitle())

str = "This is string example....wow!!!";
print (str.istitle())
```

```
True
False
```

```
str = "THIS IS STRING EXAMPLE....WOW!!!";
print (str.isupper())

str = "THIS is string example....wow!!!";
print (str.isupper())
```

```
True
False
```

```
#join() returns a string in which the string elements of sequence have
been joined by str separator.

s = "  *  *  ";
seq = ("abc", "bttt", "cqweqe"); # This is sequence of strings.
print (s.join( seq ))
```

```
abc  *  *  bttt  *  *  cqweqe
```

```
str = "this is string example....wow!!!";
print ("Length of the string: ", len(str))
```

```
Length of the string:  32
```

```
#lstrip() returns a copy of the string in which all chars have been str
ipped from the beginning of the string (default whitespace characters)

str = "     this is string example....wow!!!     ";
print (str.lstrip())
str = "88888888this is string example... wow!!!999999";
print (str.lstrip('8'))
print (str.rstrip('9'))
```

```
this is string example... wow!!!
this is string example....wow!!!999999
88888888this is string example....wow!!!
```

```
str = "THIS IS STRING EXAMPLE....WOW!!!";
print (str.lower())
```

```
this is string example....wow!!!
```

```
#returns largest character
str = "check. ..wow!!!";
print ("Max character: " + max(str))

str = "shabnam. ..!!!";
print ("Max character: " + max(str))
```

```
Max character: w
Max character: s
```

```
str = "this-is-real-string-example... wow!!!";
print ("Min character: " + min(str))

str = "this-is-a-string-example....wow!!!";
print ("Min character: " + min(str))
```

```
Min character: !
Min character: !
```

```
#str.replace(old, new[, max])

str = "this is string example....wow!!! this is really string"
```

```
print (str.replace("is", "was"))
print (str.replace("is", "was", 3))
```

```
thwas was string example....wow!!! thwas was really string
thwas was string example....wow!!! thwas is really string
```

```
str = "this is string example....wow!!!";
print (str.startswith( 'this' ))
print (str.startswith( 'is', 2, 4 ))
print (str.startswith( 'this', 2, 4 ))
```

```
True
True
False
```

```
str = "this is string example....wow!!!";
print ("str.capitalize() : ", str.upper())
```

```
str.capitalize() :  THIS IS STRING EXAMPLE... WOW!!!
```

```
str = "this is string example....wow!!!";
print (str.swapcase())

str = "THIS IS STRING EXAMPLE....WOW!!!";
print (str.swapcase())
```

```
THIS IS STRING EXAMPLE....WOW!!!
this is string example....wow!!!
```

LISTS

```
list1 = ['physics', 'chemistry', 1997, 2000];
list2 = [1, 2, 3, 4, 5, 6, 7 ];
print ("list1[0]: ", list1[2])
print ("list2[1:5]: ", list2[1:3])
```

```
list1[0]:  1997
list2[1:5]:  [2, 3]
```

```
list = ['physics', 'chemistry', 1997, 2000];
print ("Value available at index 2 : ")
print (list[2])
list[2] = 999999;
print ("New value available at index 2 : ")
print (list[2])
```

```
Value available at index 2 :
1997
New value available at index 2 :
999999
```

```
list1 = ['physics', 'chemistry', 1997, 2000];
print (list1)
del (list1[2]);
print ("After deleting value at index 2 :")
print (list1)
```

```
['physics', 'chemistry', 1997, 2000]
After deleting value at index 2 :
['physics', 'chemistry', 2000]
```

```
list1, list2 = [123, 'xyz', 'zara'], [456, 'abc']
print ("First list length : ", len(list1))
print ("Second list length : ", len(list2))
```

```
First list length :  3
Second list length :  2
```

```
aList = [123, 'xyz', 'zara', 'abc'];
aList.append( 2009 );
print ("Updated List : ", aList)
```

```
Updated List :  [123, 'xyz', 'zara', 'abc', 2009]
```

```
aList = [123, 'xyz', 'xyz', 'abc', 123];
print ("Count for xyz : ", aList.count('xyz'))
print ("Count for zara : ", aList.count('zara'))
```

```
Count for xyz :  2
Count for zara :  0
```

```
aList = [123, 'xyz', 'zara', 'abc', 123];
bList = [2009, 'shabnam'];
aList.extend(bList)
print ("Extended List : ", aList)
```

```
Extended List :  [123, 'xyz', 'zara', 'abc', 123, 2009, 'shabnam']
```

```
aList = [123, 'xyz', 'zara', 'abc', 'zara'];
```

```
print ("Index for xyz : ", aList.index( 'xyz' ) )
print ("Index for zara : ", aList.index( 'zara' ) )
```

```
Index for xyz :  1
Index for zara :  2
```

```
aList = [123, 'xyz', 'zara', 'abc']
aList.insert( 3, 2009)
print ("Final List : ", aList)
```

```
Final List :  [123, 'xyz', 'zara', 2009, 'abc']
```

```
aList = [123, 'xyz', 'zara', 'abc'];

print(aList)

print ("List after popping last element : ", aList.pop())

print(aList)

print ("List after popping element from mentioned index: ", aList.pop(2
))

print(aList)

aList.insert(3, 2009)

print(aList)
```

```
[123, 'xyz', 'zara', 'abc']
List after popping last element :  abc
[123, 'xyz', 'zara']
List after popping element from mentioned index:  zara
[123, 'xyz']
[123, 'xyz', 2009]
```

```
aList = [123, 'xyz', 'zara', 'abc', 'xyz'];
aList.remove('xyz');
print ("List : ", aList)
aList.remove('abc');
print ("List : ", aList)
```

```
List :  [123, 'zara', 'abc', 'xyz']
List :  [123, 'zara', 'xyz']
```

```
aList = ['shabnam', 'xyz', 'zara', 'abc', 'nive'];
```

```
aList.reverse();
print ("List : ", aList)
```

```
List :  ['nive', 'abc', 'zara', 'xyz', 'shabnam']
```

```
aList = ['naveen', 'shabnam', 'sonia', 'ali', 'nive'];
aList.sort();
print ("List : ", aList)
```

```
List :  ['ali', 'naveen', 'nive', 'shabnam', 'sonia']
```

LOOPS

```
str = "Python"
    for i in str:
        print(i)
```

```
P
y
t
h
o
n
```

```
list = [1,2,3,4,5,6,7,8,9,10]
    n = 6
    for i in list:
        c = n*i
        print(n," *",i, " =", c)
```

```
6  * 1  = 6
6  * 2  = 12
6  * 3  = 18
6  * 4  = 24
6  * 5  = 30
6  * 6  = 36
6  * 7  = 42
6  * 8  = 48
6  * 9  = 54
6  * 10  = 60
```

```
list = [10,30,23,43,65,12]
    sum = 0
    for i in list:
        sum = sum+i
    print("The sum is:",sum)
```

```
The sum is: 183
```

```
for i in range(14):
        print(i,end=' ')
```

```
0 1 2 3 4 5 6 7 8 9 10 11 12 13
```

```
n = int(input("Enter the number "))
    for i in range(1,11):
        c = n*i
        print(n,"*",i,"=",c)
```

```
Enter the number 4
4 * 1 = 4
4 * 2 = 8
4 * 3 = 12
4 * 4 = 16
4 * 5 = 20
4 * 6 = 24
4 * 7 = 28
4 * 8 = 32
4 * 9 = 36
4 * 10 = 40
```

```
n = int(input("Enter the number "))
    for i in range(2,n,2):
        print(i)
```

```
Enter the number 19
2
4
6
8
10
12
14
16
18
```

```
list = ['Peter','Shabnam','Ricky','Devansh']
    for i in range(len(list)):
        print("Hello",list[i])
```

```
Hello Peter
Hello Shabnam
Hello Ricky
Hello Devansh
```

```
for i in range(0,7):
        print(i)
```

```
    else:
        print("for loop completely exhausted, since there is no break."
)
```

```
0
1
2
3
4
5
6
for loop completely exhausted, since there is no break.
```

```
for i in range(0,7):
        print(i)
        print("bye")
        continue;
        print("hello")
    else:print("for loop is exhausted");
    print("The loop is broken due to break statement...came out of the
loop")
```

```
0
bye
1
bye
2
bye
3
bye
4
bye
5
bye
6
bye
for loop is exhausted
The loop is broken due to break statement...came out of the loop
```

```
# prints all letters except 'a' and 't'
    i = 0
    str1 = 'shabnam'
    print(str1)
    while i < len(str1):
        print('entered while loop before if statement')
        if str1[i] == 'a' or str1[i] == 'u':
            print('entered if statement')
            i += 1
            print('i incremented')
            continue
            print('after continue')
```

```
        print('Current Letter :', str1[i])
        i += 1
        print('going back to starting of while loop')
```

```
shabnam
entered while loop before if statement
Current Letter : s
going back to starting of while loop
entered while loop before if statement
Current Letter : h
going back to starting of while loop
entered while loop before if statement
entered if statement
i incremented
entered while loop before if statement
Current Letter : b
going back to starting of while loop
entered while loop before if statement
Current Letter : n
going back to starting of while loop
entered while loop before if statement
entered if statement
i incremented
entered while loop before if statement
Current Letter : m
going back to starting of while loop
```

```
i = 0
str1 = 'shabnam'

while i < len(str1):
    if str1[i] == 'n':
        i += 1
        break
    print('Current Letter :', str1[i])
    i += 1
```

```
Current Letter : s
Current Letter : h
Current Letter : a
Current Letter : b
Current Letter : a
Current Letter : m
```

```
#The pass statement is used to declare the empty loop.
#It is also used to define empty class, function, and control statement
.

str1 = 'shabnam'
i = 0

while i < len(str1):
```

```
    i += 1
    pass
print('Value of i :', i)
```

```
Value of i : 7
```

```
i=1
    #The while loop will iterate until condition becomes false.
    while(i<=10):
        print(i)
        i=i+1
```

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

```
i=1
    number = int(input("Enter the number:"))
    while i<=10:
        print("%d X %d = %d \n"%(number,i,number*i))
        i = i+1
```

```
Enter the number:3
3 X 1 = 3

3 X 2 = 6

3 X 3 = 9

3 X 4 = 12

3 X 5 = 15

3 X 6 = 18

3 X 7 = 21

3 X 8 = 24

3 X 9 = 27

3 X 10 = 30
```

```
while (1):
    print("Hi! we are inside the infinite while loop")
```

```
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
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Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
```

```
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
Hi! we are inside the infinite while loop
```

```
 var = 1
    while(var != 2):
        i = int(input("Enter the number:"))
        print("Entered value is %d"%(i))
```

```
Enter the number:3
Entered value is 3
Enter the number:3
Entered value is 3
Enter the number:4
Entered value is 4
Enter the number:5
Entered value is 5
Enter the number:6
Entered value is 6
Enter the number:7
Entered value is 7
Enter the number:2
Entered value is 2
```

```
i=1
while(i<=5):
    print(i)
    i=i+1
else:
    print("The while loop exhausted")
```

```
1
2
3
4
5
The while loop exhausted
```

```
i=1
while(i<=5):
    print(i)
    i=i+1
    if(i==3):
        break
else:
    print("The while loop exhausted")
print("bye bye")
```

```
1
2
bye bye
```

```
list =[1,2,3,4]
    i=1;
    count =  1;
    for i in list:
        if i == 4:
            print("item matched")
            count = count + 1;
            break
    print("found at",count,"location");
```

```
item matched
found at 2 location
```

```
str = "python"
    for i in str:
        if i == 'o':
            break
        print(i);
```

```
p
y
t
h
```

```
 n =2
while 1:
          i=1;
          while i<=10:
              print("%d X %d = %d\n"%(n,i,n*i));
              i = i+1;
          choice = int(input("Do you want to continue printing the table,
  press 0 for no?"))
          if choice == 0:
              break;
          n=n+1
```

```
2 X 1 = 2

2 X 2 = 4

2 X 3 = 6

2 X 4 = 8

2 X 5 = 10

2 X 6 = 12

2 X 7 = 14

2 X 8 = 16

2 X 9 = 18

2 X 10 = 20

Do you want to continue printing the table, press 0 for no?1
3 X 1 = 3

3 X 2 = 6

3 X 3 = 9

3 X 4 = 12

3 X 5 = 15

3 X 6 = 18

3 X 7 = 21

3 X 8 = 24

3 X 9 = 27

3 X 10 = 30

Do you want to continue printing the table, press 0 for no?1
4 X 1 = 4

4 X 2 = 8

4 X 3 = 12
```

```
4 X 4 = 16

4 X 5 = 20

4 X 6 = 24

4 X 7 = 28

4 X 8 = 32

4 X 9 = 36

4 X 10 = 40

Do you want to continue printing the table, press 0 for no?0
```

```
i = 0
    while(i < 10):
       i = i+1
       if(i == 5):
          continue
       print(i)
```

```
1
2
3
4
6
7
8
9
10
```

```
str = "Shabnam"
    for i in str:
        if(i == 'n'):
            continue
        print(i)
```

```
S
h
a
b
a
m
```

```
list = [1,2,3,4,5]
    flag = 0
    for i in list:
        print("Current element:",i,end=" ");
```

```
        if i==3:
            pass
            print("\nWe are inside pass block\n");
            flag = 1
        if flag==1:
            print("\nCame out of pass\n");
            flag=0
```

```
Current element: 1 Current element: 2 Current element: 3
We are inside pass block


Came out of pass

Current element: 4 Current element: 5
```

```
for i in [1,2,3,4,5]:
        if(i==4):
            pass
            print("This is pass block",i)
        print(i)
```

```
1
2
3
This is pass block 4
4
5
```