12.Loops

May 3, 2020

Leap Year

```python
[1]: num = int(input()) # 15

     if num % 3: # 0
         print("multiple of 3")
     else:
         print("not multiple of 3")
```

```
15
not multiple of 3
```

```python
[9]: year = int(input("Enter year: "))

     if year % 4 == 0:
         print(f"{year} is Leap Year.")
     else:
         print(f"{year} is not a Leap Year.")
```

```
Enter year: 1900
1900 is Leap Year.
```

```python
[5]: #365.25 days --> single

     365*4
```

```
[5]: 1460
```

```python
[7]: 365.25*4
```

```
[7]: 1461.0
```

100 -> 4 ->

200 -> 4 ->

```python
[8]: 1900 # not a leap
```

[8]: 1900

400 –> centuray year –> leap year

```
[23]: year = int(input("year: "))
      if year % 4 == 0:
          if (year % 100 == 0 and year % 400 == 0) or (year % 100 != 0):
                  print(f"{year} is a leap year.")
          else:
                  print(f"{year} is not a leap year.")
      else:
          print(f"{year} is not a leap year.")
```

```
year: 2016
2016 is a leap year.
```

```
[32]: year = int(input("year: "))
      if year % 4 == 0 and (year % 100 != 0 or  year % 400 == 0):
          print(f"{year} is Leap Year.")
      else:
          print(f"{year} is not a leap year.")
```

```
year: 2013
2013 is not a leap year.
```

```
[36]: year = int(input("year: "))
      if (year % 4 == 0 and year % 100) or year % 400 == 0:
          print(f"{year} is leap year.")
      else:
          print(f"{year} is not leap year.")
```

```
year: 2013
2013 is not leap year.
```

month number input and month name print

```
[39]: month = {
          1: "Jan", 2: "Feb", 3: "March", 4: "April", 5: 'May', 6: "June", 7: "July",␣
      ↪8: "Aug", 9: "Sept", 10: "Oct", 11:"Nov",
          12: "Dec"
      }

      num = int(input("Enter month number: "))

      print(month.get(num, "Invalid Month Number"))
```

```
Enter month number: 13
Invalid Month Number
```

19 4

2000

400

0.0.1 Loop

repeatition of statements

10 time hello print

print table of a number

unitll there is money in atm ask user for card input

while Loop

syntax:

counter = 1 # initlization counter variable

```
while cond using counter:
    st1
    st2
    st3
    st4

    counter += 1 # increment or decrement of counter variable
```

```
[40]: counter = 1
      while counter <= 10:
          print(f"Hello World Times : {counter}")
          counter += 1
```

```
Hello World Times : 1
Hello World Times : 2
Hello World Times : 3
Hello World Times : 4
Hello World Times : 5
Hello World Times : 6
Hello World Times : 7
Hello World Times : 8
Hello World Times : 9
Hello World Times : 10
```

break

continue

else

```python
[44]: def hello():
          print("hello world")

      def bye():
          print("bye world")

          def default():
          print("ha ha ha default")
```

```python
[45]: d =  {
          1: hello,
          2: bye
      }
```

```python
[48]: num = int(input("Enter a number: "))

      d.get(num, default)()
```

```
Enter a number: 4
ha ha ha default
```

```python
[49]: d
```

```
[49]: {1: <function __main__.hello()>, 2: <function __main__.bye()>}
```

```python
[51]: f = d.get(1)
```

```python
[52]: f()
```

```
hello world
```

```python
[54]: d.get(1)()
```

```
hello world
```

```python
[ ]:
```