

Tema 19

Python Class	Primary Use
Time from datetime	Fje samo za vreme
Date from datetime	Fje samo za datume
Datetime from datetime	Generalne fje za razliku vremena i trenutno vreme
Time	Time.sleep() za implementaciju tajmera i odbrojavanja

- Milisekunde u racunarstvu i prebacivanje u sve vremenske zapise
- Slicne biblioteke postoje u drugim programskim jezicima
- Funkcije now(), sleep().. Postoje u drugim jezicima i koriste se isti algoritmi za racunanje vremena

FUNKCIJE SA DATUMIMA

```
datetime(2020, 10, 24)
datetime.now()
strftime(
    %A, %d, %B, %y
```

- Isprobati opcije za ispis datuma za danasnji dan sa opcijama formatiranja koje postoje
- Now() vs 1.1.1970
- Koji dan se pada danasnji datum sledece godine?
- Koji dan u nedelji je bio kada sam se rodila?

PRIMER 1: razne opcije za ispis

```
from datetime import date
from datetime import time
from datetime import datetime
```

```
print(datetime.today())
danas = datetime.today()
```

```

print("Danas je: {} {} {}".format(danas.date, danas.month, danas.year))
broj_u_nedelji = danas.weekday()
print("Danas je {}.ti dan u nedelji".format(broj_u_nedelji+1))
dani= ["Pon", "Uto", "Sre", "Cet", "Pet", "Sub", "Ned"]
print("Danas je", dani[broj_u_nedelji])

sada = datetime.now()
print(sada)

print(sada.strftime("%Y")) # godina
print(sada.strftime("%y"))
print(sada.strftime("%A")) # ime dana u nedelji
print(sada.strftime("%a"))
print(sada.strftime("%B")) # ime meseca u godini
print(sada.strftime("%b"))
print(sada.strftime("%D")) # ful datum 11/19/2020
print(sada.strftime("%d")) # datum 19
print(sada.strftime("%A, %d %B %y"))

#%I/%H - 12/24 Hour, %M - minute, %S - second, %p - local's AM/PM
print(sada.strftime("%I:%M:%S %p")) # 12-Hour:Minute:Second:AM
print(sada.strftime("%H:%M")) # 24-Hour:Minute

```

OBJASNJENJE:

Napomena 1: od ovih oblika za ispis, proraditi sve, ali je ok da zapamte 2-3

PRIMER 2 i 3: Nova godina koji dan se pada, ocaj datum naredne godine koji dan ce biti

```

from datetime import date
from datetime import time
from datetime import datetime
from datetime import timedelta

# construct a basic timedelta and print it
print (timedelta(days=365, hours=8, minutes=15))
# print today's date
print ("today is: " + str(datetime.now()))
# print today's date one year from now
next_year = datetime.now() + timedelta(days=365)
print ("one year from now it will be:" + str(datetime.now() +
timedelta(days=365)))
print(next_year.strftime("%A"))
# create a timedelta that uses more than one argument
# print (in one week and 4 days it will be " + str(datetime.now() +
timedelta(weeks=1, days=4)))
# How many days until New Year's Day?
today = date.today() # get today's date
nyd = date(today.year, 1, 1) # get New Year Day for the same year
# use date comparison to see if New Year Day has already gone for this year
# if it has, use the replace() function to get the date for next year
if nyd < today:

```

```
print ("New Year day is already went by %d days ago" % ((today -
nyd).days))
```

OBJASNJENJE:

Napomena 1: Bitno je da zapamte stampanje danasnjeg datuma i tu funkciju

Napomena 2: Isprobati jos neke kalkulacije sa deltatime

Napomena 3: Kako promeniti da se racuna za narednu novu godinu?

PRIMER 4: Koji dan je bio kad sam se rodila

```
from datetime import datetime
from datetime import time
from datetime import date

datum = datetime(1986,1,13,5,0)
print(datum.strftime("%b %d %Y %H:%M"))


print(datum.strftime("%A"))
#print(next_year.strftime("%A"))
```

PRIMER 5: Kreiranje obicnog datuma

```
from datetime import time

Time = time(11, 34, 56)


print("hour =", Time.hour)
print("minute =", Time.minute)
print("second =", Time.second)
print("microsecond =", Time.microsecond)
```



ZADATAK 1

ODBROJAVANJE

Napraviti program kojim se odbrojavaju sekunde do Nove godine



PRIMER 6: Odbrojavanje do Nove godine

```
from datetime import datetime
import time

futuredate = datetime.strptime('Dec 31 2021 23:59', '%b %d %Y %H:%M')
#futuredate = datetime.strptime('Nov 19 2020 18:05', '%b %d %Y %H:%M')

nowdate = datetime.now()
count = int((futuredate-nowdate).total_seconds())

days = count//86400
hours = (count-days*86400)//3600
minutes = (count-days*86400-hours*3600)//60
seconds = count-days*86400-hours*3600-minutes*60

while not (days==0 and hours==0 and minutes==0 and seconds==0):
    print("Do Nove Godine ostalo je: {} dana, {}h:{}min:{}sec".format(days,
hours, minutes, seconds))
    time.sleep(1)
    nowdate = datetime.now()
    count = int((futuredate-nowdate).total_seconds())
    days = count//86400
    hours = (count-days*86400)//3600
    minutes = (count-days*86400-hours*3600)//60
    seconds = count-days*86400-hours*3600-minutes*60

print("Srecna Nova Godina!!!!")
```

PRIMER 7: Odbrojavanje u sekundama

```
# import the time module
import time

# define the countdown func.
def countdown(t):

    while t:
        mins, secs = divmod(t, 60)
        timer = '{:02d}:{:02d}'.format(mins, secs)
        print(timer, end="\r")
        time.sleep(1)
        t -= 1

    print('Fire in the hole!!!')

# input time in seconds
t = input("Enter the time in seconds: ")

# function call
countdown(int(t))
```