python Datetime

```
# From datetime , import timedelta, timezone, datetime
impant time( )

# local time and utc time :
def shof_datetime_features( ):
    now_local = datetime.now( ) - will return the current date and time

Def
    now_utc = datetime.now (timezone.utc)
```

Add / Subtract time durations:

```
future7 = now_local + timedelta (days = 7)
past_3 = now_local - timeDelta (days = 3)
```

Date Difference:

```
diff = ~~now local~~ future7 - now_local
Print (f "{diff.days} days/n")
```

Formating and parsing:

```
iso_string = now_local.isoformat()

human_readable_string = now_local.strftime("%A, %d %B, %Y, %I, %M, %P")
```

"%A = week days Monday

"%d = days of month

%B = Full month name.

%Y = 4 digit Year

%I = Hour (12-hour clock)

%M = Minutes

%P = AM PM

parsed the datetime format from isoformat.

```
parsed_dt = datetime.fromisoformat(iso_string)
```

user input parsing validation:

```
user_input = input("Enter a date (YYYY-MM-DD):")

user_date = datetime.strptime(user_input, "%Y-%M-%d")

=datetime.strptime(user_input, "%Y-%M-%d")
print("you entered:" user_date.strftime("%A, %d %B %Y"))
except ValueError:
    print("Error: invalid date format")
```

Age calculator:

```
birth_input = input("Enter your Birthdate")

try:
    birth_date = date.strptime(birt_input, "%Y-%m-%d")
    today = datetime.today.
    age_days = (today - birthday).days.
    age = age_days / 365
    Print(f"Your age is {age} years")

except ValueError:
    Print("Error: invalid birthdate(in)
```

week days and week number of the year:

```
Print(f"Today is {now_local.strftime('%A')}, week {
week {now_local.isocalender()[1]} of the Year")
```

Luhn Algorithm

For varifying credit card numbers

4 - Visa
5 = Master
6 = Discover

first number will identify

- Double the every other digits
- Sum all the digits

4	5	3	9	9	7	0	4	3	5	4	7	0	6	3	9	1
↓																
8		6		1	4		8		10	0	1	4	1	2	1	8

= 8 + 5 + 1 + 9 + 1 + 4 + 0 + 8 + 3 + 1 + 0 + 4 + 1 + 4 + 0 + 1 + 2 + 3 + 1

= It should a multple of 10

Designed to catch common Errors:

⇒ Transpose 2 digits.

⇒ Duplicate a digit.

⇒ Imput wrong digit.