Weekly Report - 1st week

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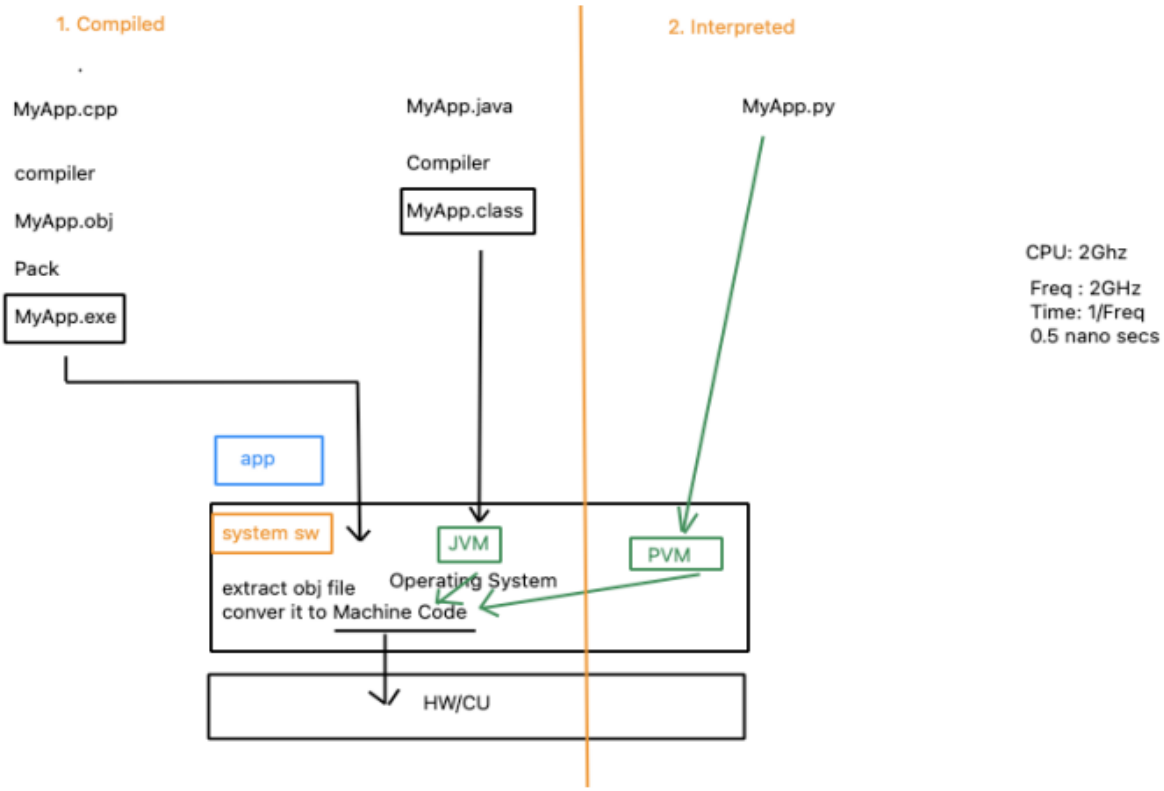
Day 1:-

- About company
- About Mentor
- What is programming language?
- Python Introduction
- Compiler vs Interpreter



- Database Introduction
- MVC Architecture

- Basic program

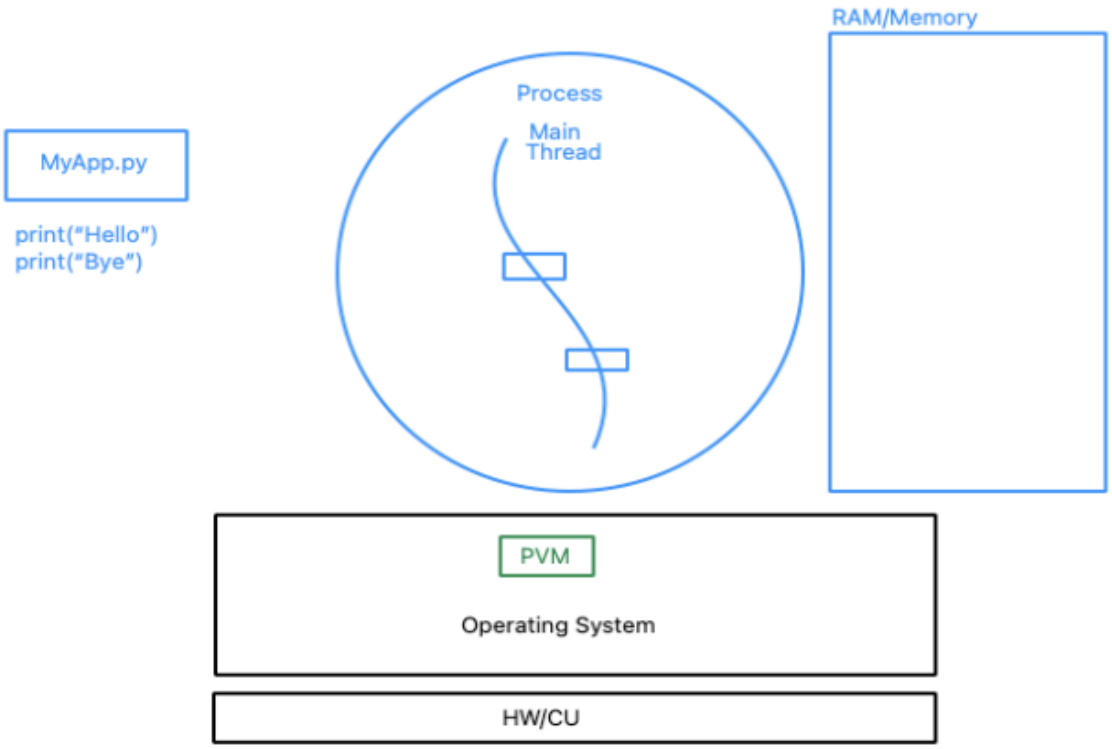
MyApp.py

```
# f(x) = x*x + 1
# x=1 | f(1) = 1*1 + 1 => 2


cart_amount = 10000
sbi_card_discount = 0.10

discount = cart_amount * sbi_card_discount

amount_to_pay = cart_amount - discount

print("Welcome All...")
```

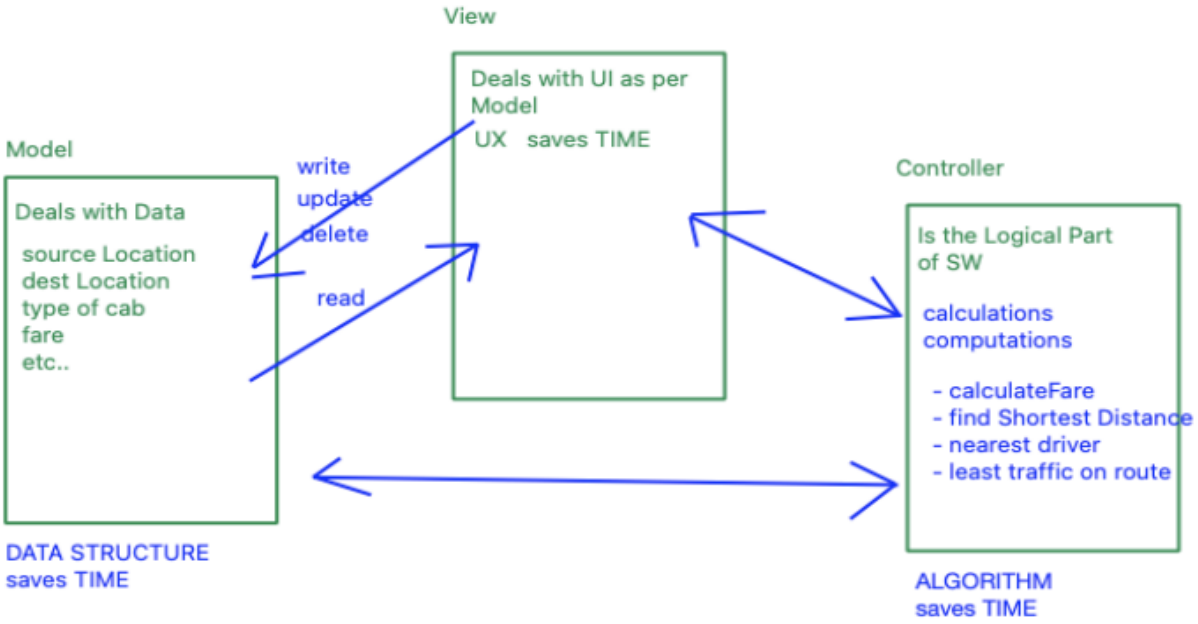
```
print("Amount to Pay is: \u20b9", amount_to_pay)
```

2 Day:-

- What is a Process?



- MVC Architecture for software

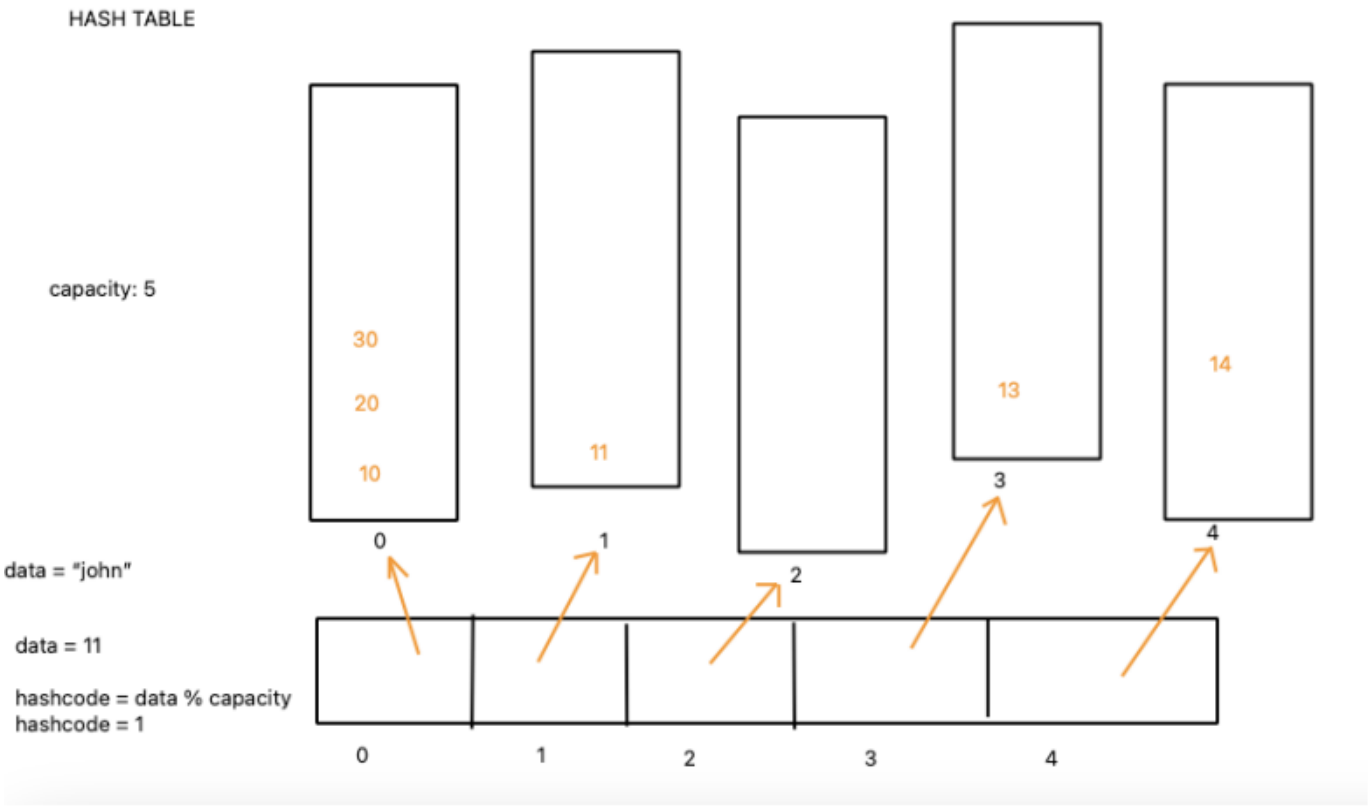


- Storage Containers
    - Single Value Container
    - Multi Value Container
        - Homogeneous
        - Heterogeneous
- Python Programs

```
# Read Operation
print(instagram_user_name, id(instagram_user_name))
print(instagram_user_name, hex(id(instagram_user_name)))
print(instagram_user_name, oct(id(instagram_user_name)))
print(instagram_user_name, bin(id(instagram_user_name)))
print(type(instagram_user_name))

user_name = "k_ishant"
print(user_name, id(user_name), type(user_name))

# user_name is a reference variable which will be created in STACK
# Value k_ishant is created within a storage container of type string in H

user = "k_ishant"
print(user, id(user), type(user))

# REFERENCE COPY Operation
another_user = user
print(another_user, id(another_user), type(another_user))

# UPDATE OPERATION
user = "anaya"
print(user, id(user), type(user))

# DELETE Operation
del user
# print(user, id(user), type(user))  # error

del another_user
# print(another_user, id(another_user), type(another_user))  # error
print(user_name, id(user_name), type(user_name))
```

Day 3:-

- HashTable (Hashing and HashCodes)



- Introduction to Multi Value Container
  - Tuple
  - List
  - Set
  - Dictionary

- Data Modeling Case Studies

```
# CASE STUDY
# ZOMATO with Python Storage Containers

promo_codes = ["WELCOME 50", "ZOMPAYTM", "BINGO", "JUMBO"]

dish1 = {
    "name": "Mc Aloo Tikki",
    "price": 100,
    "ratings": 4.3
}

dish2 = {
    "name": "Mc Veggie",
    "price": 140,
    "ratings": 4.7
}

dish3 = {
    "name": "Mc Veggie Wrap",
    "price": 80,
    "ratings": 3.5
}

menu = [dish1, dish2, dish3, {"name": "Mc Egg", "price": 75, "ratings": 4.1}]

restaurant = {
    "name": "Mc Donalds",
    "address": "Ansla Plaza, Ludhiana",
    "description": "Burger, Fast Food, Coffee, Beverages, Wraps",
    "ratings": 4.5,
    "menu": menu,
    "promos": promo_codes
}
```

Day 4:-

CONTROLLER

Operators	-> Mathematical Computations	
Conditional Constructs	-> Decision Making	if/else
Loops/Iterations*	-> Repetition	while, for

```
product_price = 125.25
taxes = 0.18

# Associativity and Precedence (Self Read :))
price_to_pay = product_price + (product_price * taxes)
print("Price to Pay: \u20b9", price_to_pay)

number = 10
# result = number/3     # Floating Point Div
result = number // 3    # Integral Div
print("Result:", result) # 3

base = 2
# result = result * 2
result = base ** result
print("Result:", result) # 8


# Assignment Operators
# =, +=, -=, *=, **=, /=, //=, %=

age = 20
# age = age + 3
age += 3  # age = age + 3
age += 10
age -= 5
age %= 3

print("Age is:", age)

# Increment and Decrement Operators
# ++ and -- does not exist in Python

idx = 0
idx += 3
```