

# NAME: M.ABDULLAH

## Conceptual questions

### Question no 1:

1) Python mein mutable aur immutable data types mein kya farq hai?

#### Mutable data types:

Mutable data types wo hote han jis ma ap programme ka douran changing kar sakhtay han.

**Examples:** list, dictionary, set

#### Immutable data types:

Immutable data types wo hote han jis ma ap programme ka douran chang nai kar skhtay.

**Examples:** int, float, str, tuple

### Question no 2:

2) 2 real-life examples do jab hum: list, tuple, dictionary, aur set ka use karte hain.

## List :

### 1. Shopping cart:

Jahan user items add/remove karta hai — cart mein list use hoti hai.

### 2. Class attendance:

Roz students ke naam list mein store karte ho aur update bhi karte ho.

## Tuple :

### 1. Location coordinates:

GPS ki latitude aur longitude ko tuple mein rakhte hain.

### 2. Days of the week:

Days change nahi hote — tuple best hai.

## Dictionary :

### 1. Student ka record:

Har student ka naam, age, aur grade.

### 2. Product prices:

Item aur uska price easily access kar sakte ho.

## Set:

### 1. Unique hobbies:

Duplicates nahi chahiye — set best hai.

## 2. Party guests:

Same guest naam repeat nahi honay chahiye.

## Question no 3:

### 3) Programming karte waqt sahi data type choose karna kyun zaroori hota hai?

Sahi data type choose karna is liye zaroori hota hai:

#### 1. Efficiency ke liye:

Har data type ki apni speed aur memory hoti hai. Sahi type se program **fast aur smooth** chalta hai.

#### 2. Galti se bachne ke liye:

Agar galat type use kiya to program **error de sakta hai** ya **wrong result** nikal sakta hai.

#### 3. Code ko samajhne ke liye:

Sahi data type se code **clean aur readable** hota hai — aap ya koi aur asani se samajh sakta hai.

## Question no 4:

**Type()** function ka kya use hai aur yeh debugging mein kaise madad karta hai?

**Type()** function ka kaam:

Yeh function batata hai ke kisi variable ka data type kya hai.

## **Debugging mein kaise madad karta hai?**

Jab aapka program error de raha ho aur samajh nahi aa raha ke kya galat ho raha hai —  
`type()` se check kar sakte ho ke kya galat type ka data pass ho gaya hai ya nahi.

## **Question no 5:**

**Python ki lists aur dictionaries real-life projects mein dynamic data modeling ko kaise support karti hain?**

List aur Dictionary Python mein aise data types hain jo aap program chalte waqt badal sakte ho. Iska matlab yeh hai ke aap naya data add, delete ya update kar sakte ho — bina naye code likhe.