

Assignment-3 - polymorphism

1) Bank Account - withdraw()

- Saving Account \rightarrow checks minimum balance before withdrawing
- Current Account \rightarrow Allows overdraft limit
- Loan Account \rightarrow Records EMI deduction

polymorphism means same function name behave differently depending on the object or input.

2) Shape \rightarrow area()

- Circle $\rightarrow \pi \times r^2$
 - Rectangle $\rightarrow \text{length} \times \text{breadth}$
 - Triangle $\rightarrow \frac{1}{2} \times \text{base} \times \text{height}$
- Same function, different formula

3) Employee - calculateSalary()

- Full Time \rightarrow Fixed Monthly Salary
- Part Time \rightarrow Hourly Wage \times hrs
- Intern \rightarrow stipend-based

Polymorphism means same fun name behave differently

4) Payment - pay()

- Credit Card Payment \rightarrow Card processing
- Upi Payment \rightarrow UPI transaction

Polymorphism means same fun name behave differently

~~5) Ver~~

5) Vehicle - start()

~~Sam~~ Car, bike & ~~star~~ scooter have different use but use a same function

6) Notification - send()

- Email Notification \rightarrow sends mail
- SMS Notification \rightarrow sends SMS
- Push Notification \rightarrow sends mobile app

7) Animal - makesound()

Dog → barks

Cat → meows

Cow → moos

8) Document - open()

PDFDocument → opens in PDF reader

WordDocument → opens in word processor

ImageDocument → opens in image viewer

9) Game - attack()

warrior → sword attack

Archer → Arrow shot

Mage → Magic spell

10) ~~Bus~~ Transport - calculatefare()

Bus → Distance-based fare

Train → Class + Distance fare

Flight → Dynamic Pricing

Same message given to generalize for some behaviours but implemented differently.