**CHIRAG ZALA** **SOFTWARE TESTING ASSIGNMENT**

**1) WHAT IS SOFTWARE TESTING**

**ANS:** SOFTWARE TESTING IS A PROCESS THAT USED TO IDENTIFY THE CORRECTNESS, COMPLETENESS AND QUALITY OF DEVELOPED COMPUTER SOFTWARE.

**2) WHAT IS SDLC**

**ANS: SDLC** IS A STRUCTURE IMPOSED ON THE DEVELOPMENT OF A SOFTWARE PRODUCT THAT DEFINES THE PROCESS FOR PLANNING, IMPLIMENTATION, TESTING, DOCUMENTATION, DEPLOYMENT, AND ONGOING MAINTENANCE AND SUPPORT.

**3) WRITE SDLC PHASES WITH BASIC INTRODUCTION**

**ANS:** THERE ARE SIX PHASES OF SDLC STRUCTURE.

1) **REQUIREMENTS COLLECTION/GATHERING** : THIS PHASE REQUIRED AND ESTABLISH CUSTOMER NEED ALSO ALTHOUGH REQUIRENTMENT MAY BE DOCUMENTED IN WRITTEN FORM.THERE ARE TWO TYPE REQUIRMENT **FUNCTIONAL**  AND **NON-FUNCTIONAL**.

2) **ANALYSIS** : THIS PHASE DEFINES THE REQUIRMENTS OF THE SYSTEM, INDEPENDENT OF HOW THESE REQUIRMENT WILL BE ACCOMPLISHED.THIS PHASE ALSO DEFINES WHAT MODEL WE HAVE TO USE AND SPECIFY THE REQUIRMENT.

3) **DESIGN** : THIS PHASE DEFINES THE DESIGN ARCHITECHTURE DOCUMENTS AND IMPLEMENTATION PLAN.THIS PHASE ALSO DEFINES THE SOLUATION OF DESIGN IN MODEL AND SPECIFIED DOCUMENTS REQUIRMENT.

4)  **IMPLEMENTATION** : THIS PHASE DEFINES THE TEAM BUILDS COMPONENTS EITHER DOCUMENTS FROM THE DESIGN PHASE AND THE REQUIRMENT DOCUMENT FROM THE ANALYSIS PHASE. THIS PHASE CONSTRUCT A SOLUTION IN SOFTWARE.

5) **TESTING** : THIS PHASE DEFINES THE VALIDATE THE SOLUATION AGAINST THE REQUIRMENTS.THIS PHASE STATE THE QUALITY IS VERY IMPORTANT.

6) **MAINTENANCE** : THIS DEFINE THE REPAIR DEFECTS AND ADAPT THE SOLUTION TO THE NEW REQUIRMENTS.THIS PHASE IS THE PROCESS OF CHANGING ASYSYTEM AFTER IT HAS BEEN DEPLOYED.

**4) EXPLAIN PHASES OF THE WATERFALL MODEL**

**ANS :** THERE ARE SIX PHASES IN WATERFALL MODEL.

1) REQUIREMENTS COLLECTION/GATHERING

2) ANALYSIS

3) DESIGN

4) IMPLEMENTATION

5) TESTING

6) MAINTENANCE

**NOTE** : WHILE WE WORK ON WATELFALL MODEL TESTING THERE IS NO BACK IN TESTING AND REQUIREMTS MUST BE FROZEN AND THE PROJECT IS SHORT.

**5) WRITE PHASES OF SPIRAL MODEL**

**ANS :** THE PHASES OF SPIRAL MODEL MENTIONED BELOW IT.

1) **PLANNING**- DETERMINATION OF OBJECTIVES, ALTERNATIVES AND CONSTRAINTS

2) **RISK ANALYSIS**- ANALYSIS OF ALTERNATIVES AND IDENTIFICATION OR RESOLUTION OF RISKS

3)**ENGINEERING-** DEVELOPMENT OF THE NEXT LEVEL PRODUCT

4) **CUSTOMER EVALUATION**- ASSESSMENT OF THE RESULTS OF ENGINEERING

**6) WHAT IS AGILE METHODOLOGY?**

**ANS:-** AGILE MODEL/METHODOLOGY IS A COMBINATION OF ITERATIVE AND INCREMENTAL PROCESS MODEL.AGILE METHODS BREAK THE PRODUCT INTO SMALL INCREAMENTAL BUILDS.

**7) WRITE AGILE MANIFESTO PRINCIPLES**

**ANS:-** AGILE MENIFESTO PRINCIPLES MENTIONED BELOW IT.

1)IN THIS MODEL REQUIRE INDIVIDUAL INTRECTION

2) THIS METHODS WORK ON WORKING SOFTWARE

3) IN THIS METHOD CUSTOMER COLLOBRATION PLAY MAJOR ROLE.

4) THIS MODEL RESPONDING ON THE CHANGING IN SOFTWARE.

**8) EXPLAIN WORKING METHODOLOGY OF THE AGILE MODEL AND ALSO WRITE PROS AND CONS.**

**ANS:-** AGILE METHODOLOGY IS A COMBINATION OF ITERATIVE AND INCREMENTAL PROCESS MODELS WITH FOCUS ON PROCESS ADAPTABILITY AND CUSTOMER SATISFACTION BY RAPID DELIVERY OF WORKING SOFTWARE.METHODS BREAKS THE PRODUCT INTO SMALL INCREMENTAL BULIDS AND THESE BUILDS ARE PROVUDED IN ITERATION ALSO EACH ITERATION TYPICALLY LASTS FROM ABOUT ONE TO THREE WEEKS.EVERY ITERATION INVOLVES CROSS FUNCTIONAL TEAM WORKING SIMULTANEOUSLY ON VARIOUS AREAS LIKE PLANNING, REQUIRMENTS ANALYSIS, DESIGN, CODING, UNIT TESTING AND ACCEPTANCE TESTING AND THAN AT THE END OF THE ITERATION A WORKING PRODUCT IS DISPLAYED TO THE CUSTOMER AND IMPORTANT STAKEHOLDERS.

**PROS:-**

**->** VERY REALISTIC APPROACH APPROACH TO SOFTWARE DEVELOPMENT

**->** PROMOTES TEAMWORK AND CROSS TRAINING

**->**  FUNCTIONALITY CAN BE DEVELOPED RAPIDLY AND DEMONSTRATED.

**->** SUITABLE FOR FIXED OR CHANGING REQUIRMENTS.

**->** DELIVERS EARLY PARTIAL WORKING SOLUATIONS.

**->** GOOD MODEL FOR ENVIROMENTS THAT CHANGE STEADILY

**->** NO PLANING REQUIRED TO MANGE GIVES FLEXIBILITY TO DEVELOPERS

**CONS:-**

**->** NOT SUITABLE FOR HANDLING COMPLEX DEPENDENCIES

**->**  MORE RISK OF SUSTAINABILITY, MAINTAINABILITY AND EXTENSIBILITY.

**->** AN OVERALL PLAN, AN AGILE LEADER AND AGILE PM PRACTICE IS A MUST WITHOUT WHICH IT WILL NOT WORK

**->**  STICT DELIVERY MANAGEMENT DICTATES THE SCOPE, FUNCTIONALITY TO BE DELIVERED ANDADJUSTMENTS TO MEET THE DEADLINES.

**->** DEPENDS HEAVILY ON CUSTOMER INTERACTION, SO IF CUSTOMER IS NOT CLEAR, TEAM CAN BE DRIVEN IN THE WRONG DIRECTION.

**->** THERE IS VERY HIGH INDIVIDUAL DEPENDENCY, SINCE THERE IS MINIMUM DOCUMENTATION GENERATED.

**9) WHAT IS SRS**

**ANS:- SRS** IS A SOFTWARTE REQUIREMENTS SPECIFICATION IS A COMPLETE DESCRIPTION OF THE BEHAVIOR OF THE SYSTEM TO BE DEVELOPED AND IT INCLUDES A SET OF USE CASES THAT DESCRIBE ALL OF THE INTERACTIONS THAT THE USERS WILL HAVE THE SOFTWARE.

**10) WHAT IS OOPS**

**ANS :- OOPS** IS AN OBJECT ORIENTED PROGRAMMING SYSTEM BASED ON IDENTIFYING THE OBJECT AND ASSIGNING RESPONSIBILITIES TO THESE OBJECT.

**11) WRITE BASICS CONCEPTS OF OOPS**

**ANS:-**  THERE ARE SIX BASICS CONCEPTS OF OOPS.

**1)** OBJECT

**2)** CLASS

**3)** ENCAPSULATION

**4)** INHERITANCE

**5)** POLYMORPHISM

**6)** ABSTRACTION

**12) WHAT IS OBJECT**

**ANS:-**  AN OBJECT REPRESENTS THE INSTANCE OF THE CLASS. TO CREATE MEMORY FOR THAT CLASS I.E. TO ACCESS THE WHOLE PROPERTIES OF CLASS EXPECT PRIVATE CLASS.

**FOR EXAMPLE :-** sy:

classname objectname = new classname();

**13) WHAT IS CLASS?**

**ANS:-** CLASS IN AN COLLECTION OF DATA NUMBER(VARIABLE) AND MEMBER FUNCTION(PROCESS,METHODS) WITH ITS BEHAVIOUR

**FOR EXAMPLE:-** sy:

Class classname

{

Data member

Member function

}

**14) WHAT IS ENCAPSULATION?**

**ANS:-** ENCAPSULATION IS A PROCESS OFINCLUDING EVERYTHING INTO AN OBJECT AND HIDING FROM THE OTHER OBJECT.

**FOR EXAMPLE:- :**DATA HIDING: WRAPPING UP OF DATA INTO SINGLE UNIT

**:**  PRIVATE YOUR DATA MEMBER AND MEMBER FUNCTION.

**15) WHAT IS INHERITANCE ?**

**ANS:-**  INHERITANCE MEANS PROPERTIES OF PARENT CLASS EXTENDS INTO CHILD CLASS. WE CAN ALSO REDEFINE AS SAYING THAT THE PROPERTIES OF SUPER CLASS EXTENDS INTO THE SUB CLASS.

-> MAIN PURPOSE OF INHERITANCE IS WHAT WE CAN RE-USE( REUSABILITY,EXTENDABILITY) AND WE CAN ALSO EXPAND IT.

**THERE ARE MAINLY FIVE TYPE OF INHERITANCE GIVEN BELOW IT.**

**1)** SINGLE

**2)** MULTILEVEL

**3)** HIERARCHICAL

**4)** MULTIPLE

**5)** HYBRIDE

**16) WHAT IS POLYMORPHISM?**

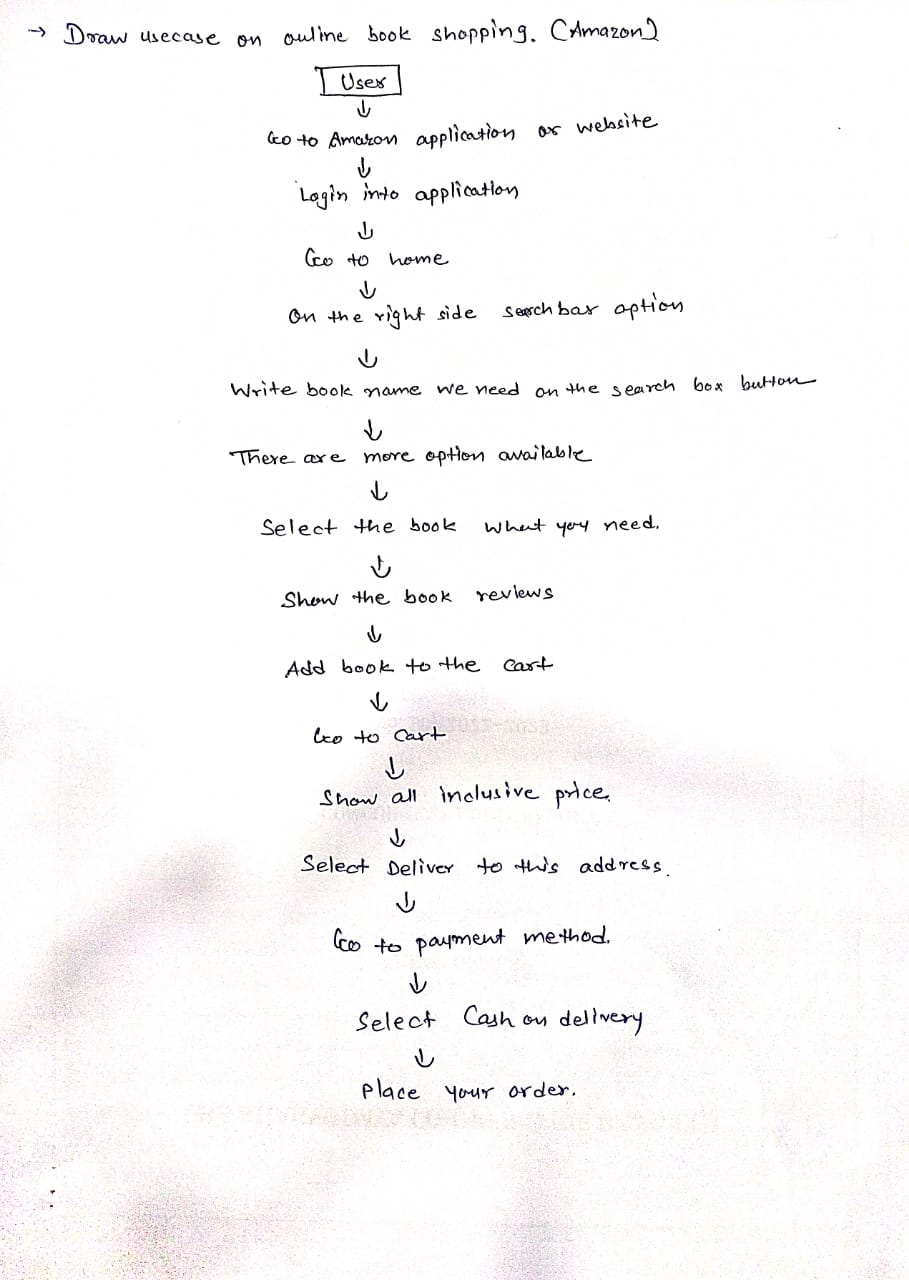
**ANS:-**  POLYMORPHISM MEANS ABILITY TO TAKE ONE NAME HAVING MANY FORMS, MULTIPLE OR DIFFERENT FORMS.

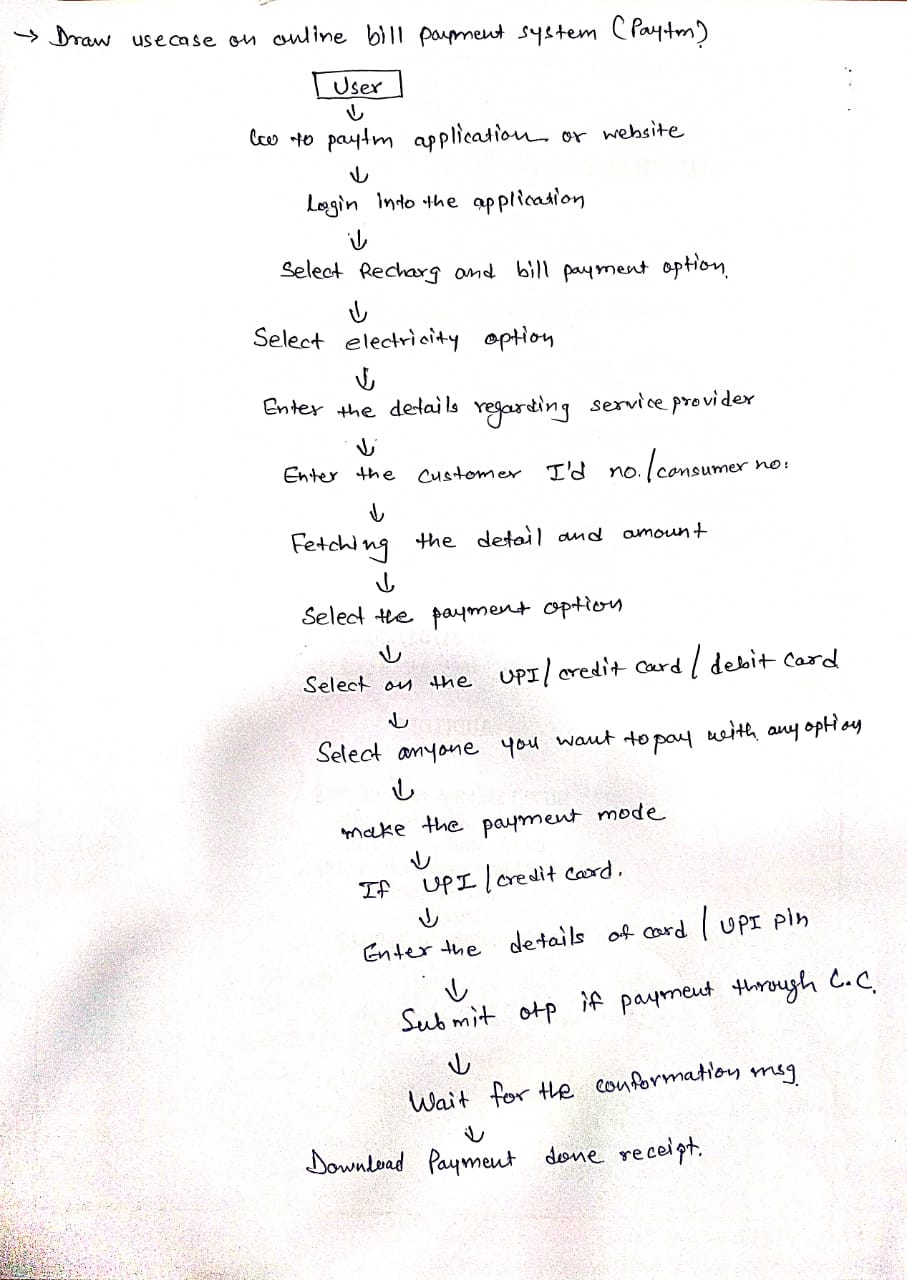
**THERE ARE MAINLY TWO TYPES OF POLYMORPHISM**

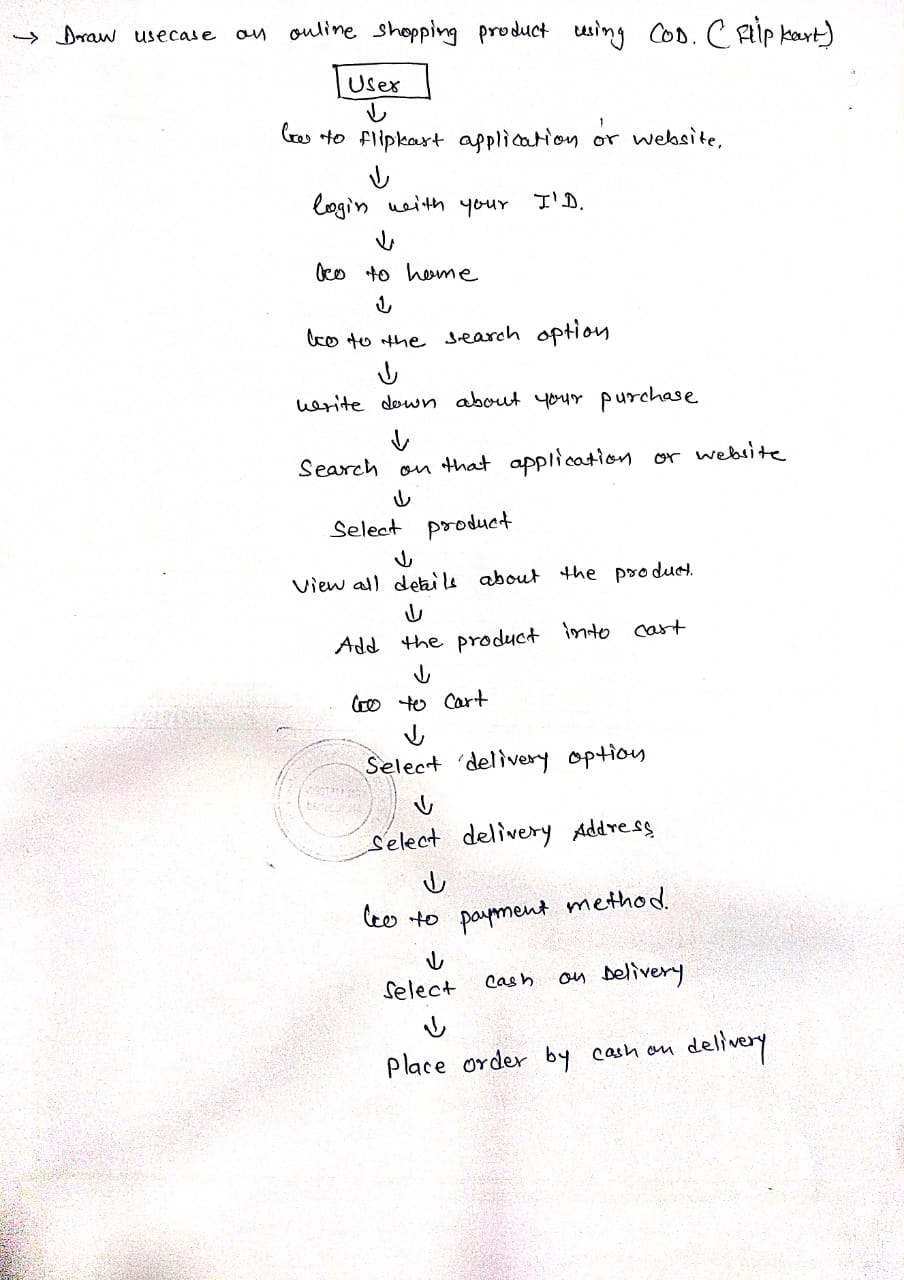
**1)**  METHOD OVERLOADING ( COMPILE TIME)

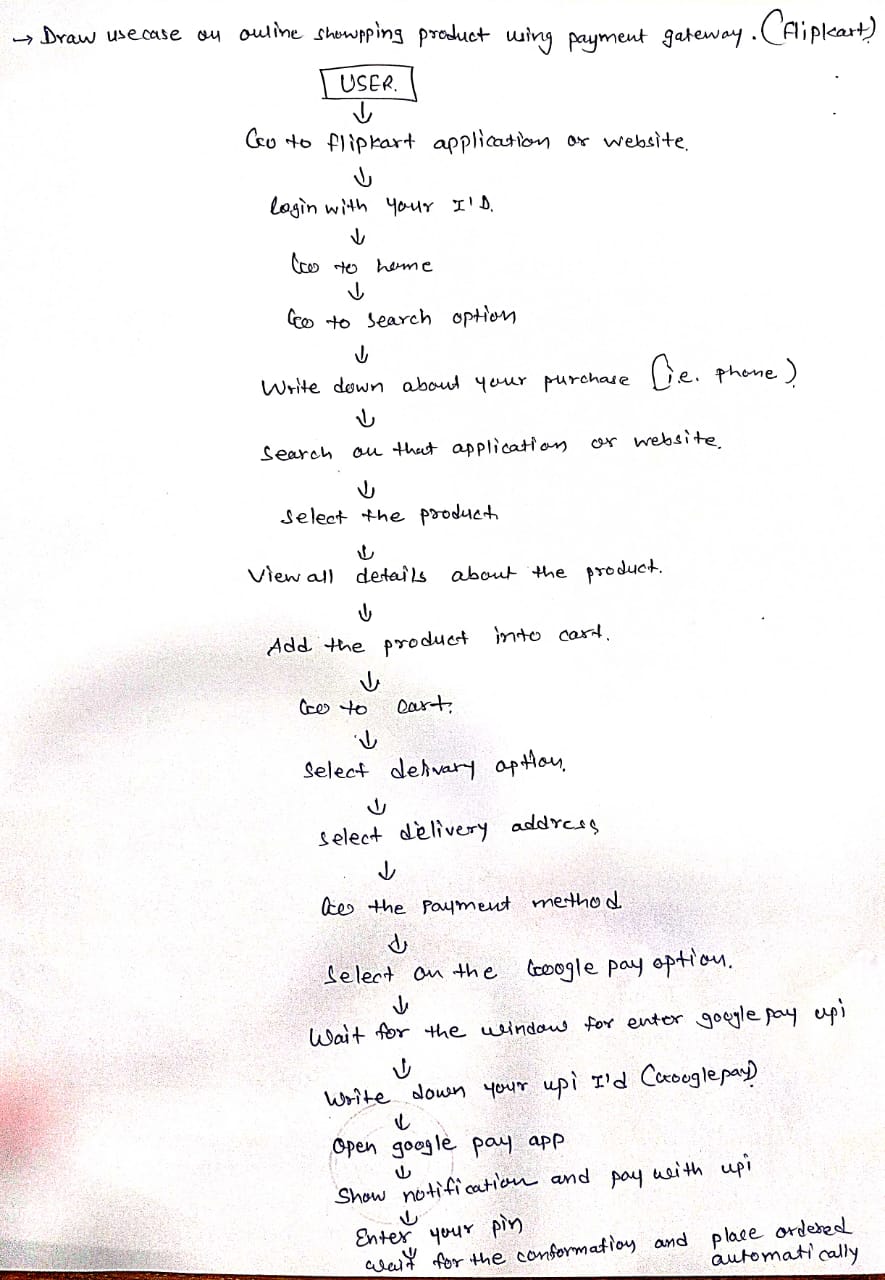
**2)** METHOD OVERIDING (RUNTIME)

**USECASES**

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