Normalisation

For the following questions:
1. Determine functional dependencies
2. Show 1NF, 2NF, 3NF

1. The parts table:

PartNo	Description	Vendor	Address	UnitCost
1234	Logic Chip	Fast Chips	Cupertino	10.00
		Smart Chips	Phoenix	8.00
5678	Memory Chip	Fast Chips	Cupertino	3.00
		Quality Chips	Austin	2.00
		Smart Chips	Phoenix	5.00

2. The book table:

Relation
(BookTitle, Author, BookType, ListPrice, AuthorNationality, Publisher)

Sample data:

BookTitle	Author	BookType	ListPrice	Author Nationality	Publisher
ModernDB Management	Hoffer, Prescott, McFadden	Textbook	$100	American Canadian Canadian	Pearson
DB Systems	Elmasri Navathe	Textbook	$100	Canadian American	Addison
Harry Potter	JK Rowling	Fiction	$30	British	Bloomsbury

Note for this relation:
- the book title is unique across all publishers
- the Book Type determines the List Price, that is all textbooks sell for $100 and Fiction for $30

Business Rules change the tables
3. Redo number 2 but this time:
- the book title is still unique across all publishers but
- the List Price is different for each book (that is not related to the book type)

4. The grade report

ID	Name	Address	Major	UnitCode	Unit	Lecturer	Office	Grade
168300458	Williams	208 Brooks	IS	IS 350	Database Mgt	Codd	B104	A
268300458	Williams	208 Brooks	IS	IS 464	Systems Analysis	Parsons	B317	B
543291073	Baker	104 Phillips	Acctg	IS 350	Database Mgt	Codd	B104	C
543291073	Baker	104 Phillips	Acctg	Acct 201	Fund Acctg	Miller	H310	B
543291073	Baker	104 Phillips	Acctg	Mktg 300	Intro Mktg	Bennett	B212	A

5. Invoice tables not structured
(http://learnline.cdu.edu.au/units/databaseconcepts/module2/popups/anomolies.html)

6. Redo the student tables from the lecture but this time:
   - A course has many coordinators
   - 1 coordinator has many courses

No	Name	Course	CourseName	CoordId	CoordName
783917	Charlie Chaplin	BIT99	Bach of IT	23	Fred Flintstone
983403	Pluto	BIT99	Bach of IT	23	Fred Flintstone
983403	Pluto	Cert IV	Cert 4 of IT	48 31	Donald Duck Minnie Mouse
100234	Huey	BIT3	Bach of IT	45 48	Mary Poppins Donald Duck
100234	Huey	Cert IV	Cert 4 of IT	48 31	Donald Duck Minnie Mouse