Appendix A Case Study: ABC Store

Matriculation Number:

(fill in your matriculation number here)

ABC Store is a popular shop that sells a range of items like groceries, fresh food, stationery and other household items. Like most shops of this type they have a personal computer at the sales counter which the salesperson uses for the purpose of preparing invoices. When a customer approaches for payment, the salesperson refers to the label in the items that the shopper brings and enters the item code, price and quantity for each item. Once the data entry is complete computer program prints the invoice as shown in the input/output format (ref fig A.1, fig A.2, fig A.3 & fig A.4).

Discounts & Computation specifications:

ABC Store offers two types of discount. First type of discount is the membership discount. Shoppers who have signed up as a "member" receive a discount of 10% on the gross total. The second type of discount is given to all shoppers (whether they are member or not). This is called mid-week discount and is applicable for all food items purchased on Wednesdays. All food items are sold at a discount of 20%. As per the codification system all food items have item codes starting with the letter "F". The customer also pays a GST @ 7% on the net amount (i.e., Gross Total – Discounts).

Refer to Input / Output format for the various situations provided in Fig A.1, A.2, A.3 & A.4 for sample computations and invoice formats overleaf.





Fig A.1: Sample Input and Invoice (output) format.

Case 1: Non-Member shopping on Thursday (no mid-week or member discount)

T						
Input:	<u>:</u>					
Enter	Item Code:	A123				
Enter	Qty: 1					
	Unit Price					
To en	ter more it	ems pre	ess Y; to	end pre	ss N:	•
	Item Code:	F432				
	Qty: 3					
	Unit Price		200 V. +0	and nma	aa N. 1	•
10 en	ter more it	ems bre	ess i; to	end bre	SS N: 1	
Enter	Item Code:	C234				
	Qty: 2	0_0_				
	Unit Price	: 7.30				
To en	ter more it	ems pre	ess Y; to	end pre	ss N:	7
The sh	nopper a loyalt	v memb	er? n			
		.,				
Outni	14.					
<u>Outpu</u>	<u>ıt:</u>		ARC STO) R.E.		
<u>Outpu</u>	<u>ıt:</u>		ABC STO			
<u>Outp</u> u	<u>ıt:</u>		ABC STO			
<u>Outpu</u>	<u>ıt:</u>			DRE		
<u>Outpı</u>	<u>1t:</u>		SINGAPO	DRE		
	It: of Purchas	e: 5-Ma	SINGAPO	DRE CE		
		e: 5-Ma	SINGAPO	DRE CE		
Date	of Purchas		SINGAPO INVOIO ar-2009 I	DRE CE 'hursday		No+
Date			SINGAPO INVOIO ar-2009 I	DRE CE 'hursday		Net
Date SNo 	of Purchas	 Qty 	SINGAPO INVOIO ar-2009 I U/Price	DRE CE Chursday Cost	Discount	
Date SNo	of Purchas Item Code A123	Qty 1	SINGAPO INVOIC ar-2009 I U/Price 5.35	DRE Thursday Cost 5.35	Discount	5.35
Date SNo O 1	of Purchas Item Code A123 F432	Qty 1 3	SINGAPO INVOIC ar-2009 I U/Price 5.35 2.30	CE Thursday Cost 5.35 6.90	Discount 0.00 0.00	5.35 6.90
Date SNo O 1	of Purchas Item Code A123	Qty 1 3	SINGAPO INVOIC ar-2009 I U/Price 5.35 2.30	CE Thursday Cost 5.35 6.90	Discount 0.00 0.00	5.35 6.90
Date SNo 0 1 2	of Purchas Item Code A123 F432	Qty 1 3	SINGAPO INVOIC ar-2009 I U/Price 5.35 2.30	CE Thursday Cost 5.35 6.90	Discount 0.00 0.00	5.35 6.90
Date SNo 0 1 2 Gross	of Purchas Item Code A123 F432 C234	Qty 1 3	SINGAPO INVOIC ar-2009 I U/Price 5.35 2.30	CE Thursday Cost 5.35 6.90	Discount 0.00 0.00	5.35 6.90 14.60 \$26.85 - \$0.00
Date SNo 0 1 2 Gross	of Purchas Item Code A123 F432 C234 Total r Discount	Qty 1 3	SINGAPO INVOIC ar-2009 I U/Price 5.35 2.30	CE Thursday Cost 5.35 6.90	Discount 0.00 0.00	5.35 6.90 14.60 \$26.85
Date SNo O 1 2 Gross Membe GST @	of Purchas Item Code A123 F432 C234 Total r Discount	Qty 1 3	SINGAPO INVOIC ar-2009 I U/Price 5.35 2.30	CE Thursday Cost 5.35 6.90	Discount 0.00 0.00	5.35 6.90 14.60 \$26.85 - \$0.00

Note:

- In the above Invoice slip, the information in *italics* varies based on the item data entered from the console.
- *Italics font* in the above figure is used only for the purpose of clarity of explanation here the actual printout shall have all information in normal font.
- The invoice slip is printed on plain paper; hence all the information shown in figure above (i.e. including titles) are printed out by a computer program. (For your computer program you may print the output on Screen).





Fig A.2: Sample Input and Invoice (output) format. Case 2: Member shopping on Thursday

(no mid-week discount but eligible for member discount)

Input:
Enter Item Code: A123 Enter Qty: 1 Enter Unit Price: 5.35 To enter more items press Y; to end press N: Y
Enter Item Code: F432 Enter Qty: 3 Enter Unit Price: 2.30 To enter more items press Y; to end press N: Y
Enter Item Code: C234 Enter Qty: 2 Enter Unit Price: 7.30 To enter more items press Y; to end press N: N
The shopper a loyalty member? y
Member No: KJ3525
Output: ABC STORE SINGAPORE
INVOICE
Date of Purchase: 5-Mar-2009 Thursday
SNo Item Code Qty U/Price Cost Discount Net
0 A123 1 5.35 5.35 0.00 5.35 1 F432 3 2.30 6.90 0.00 6.90 2 C234 2 7.30 14.60 0.00 14.60
Gross Total \$26.85 Member Discount (Member No KJ3525) - \$2.68 GST @ 7% + \$1.69
Please Pay: \$25.86

Note:

- Member Number and Member discount is provided after the Gross Total.





Fig A.3: Sample Input and Invoice (output) format.

Case 3: Non-Member shopping on Wednesday (Mid-week food item discount provided; but no member discount)

Input:	ı						
	Item C	ode:	A123				
	Qty: 1						
	Unit P				1		
Io ent	ter more	e ıte	ms pre	ess Y; to	end pre	ss N:	Y
Entor	Item C	odo.	E/32				
	Qty: 3		F432				
	Unit P		2.30				
				ess Y; to	end pre	ss N:	Y
			- 1	,	1		
Enter	Item C	ode:	C234				
	Qty: 2						
	Unit P						
To ent	ter more	e ite	ms pre	ess Y; to	end pre	ss N:	N
	_						
The sh	opper a l	oyalty	y memb	oer? n			
The sh	opper a l	oyalty	y memb	er? n			
The sh	opper a l	oyalty	y memb	oer? n			
The sh		oyalty	y memb	oer? n			
		oyalty	y memb	abc sto	ORE		
		oyalty	y memb				
		oyalty	y memb	ABC STO	ORE		
		oyalty	y memb	ABC STO	ORE		
<u>Outpu</u>	<u>t:</u>			ABC STO SINGAPO INVOIO	ORE CE	V	
<u>Outpu</u>	<u>t:</u>			ABC STO	ORE CE	у	
<u>Outpu</u>	<u>t:</u>			ABC STO SINGAPO INVOIO	ORE CE	<i>y</i>	
Outpu Date	t:	chase	: 4-Ma	ABC STO SINGAPO INVOIO	ORE CE Vednesda		t Net
Date SNo	of Pur	chase 	: 4-Ma	ABC STO SINGAPO INVOIO ar-2009 M U/Price	ORE CE Vednesda Cost	Discoun	
Date SNo	of Pure	chase ode	: 4-Ma	ABC STO SINGAPO INVOIC	ORE Vednesda Cost 5.35	Discoun	 4.82
Date SNo	of Pure Item Co	chase	: 4-Ma	ABC STOSINGAPO INVOIO ar-2009 M U/Price 5.35 2.30	ORE Vednesda Cost 5.35 6.90	Discoun 0.00 1.38	4.82 5.52
Date SNo	of Pure Item Co	chase	: 4-Ma	ABC STO SINGAPO INVOIC	ORE Vednesda Cost 5.35 6.90	Discoun 0.00 1.38	4.82 5.52
Date SNo 0 1 2	of Pure Item Co A123 F432 C234	chase	: 4-Ma	ABC STOSINGAPO INVOIO ar-2009 M U/Price 5.35 2.30	ORE Vednesda Cost 5.35 6.90	Discoun 0.00 1.38	4.82 5.52 14.60
Date SNo 0 1 2 Gross	of Pure Item Co A123 F432 C234 Total	chase ode 	: 4-Ma	ABC STOSINGAPO INVOIO ar-2009 M U/Price 5.35 2.30	ORE Vednesda Cost 5.35 6.90	Discoun 0.00 1.38	4.82 5.52 14.60 \$24.34
Date SNo 0 1 2 Gross	of Pure Item Co A123 F432 C234 Total Disco	chase ode 	: 4-Ma	ABC STOSINGAPO INVOIO ar-2009 M U/Price 5.35 2.30	ORE Vednesda Cost 5.35 6.90	Discoun 0.00 1.38	4.82 5.52 14.60 \$24.34 - \$0.00
Date SNo O 1 2 Gross Member	of Pure Item Co A123 F432 C234 Total Disco	chase ode 	: 4-Ma	ABC STOSINGAPO INVOIO ar-2009 M U/Price 5.35 2.30	ORE Vednesda Cost 5.35 6.90	Discoun 0.00 1.38	4.82 5.52 14.60 \$24.34

Note:

- Food item F432 has a 20% discount.
- No membership member number or membership discount.





Fig A.4: Sample Input and Invoice (output) format.

Case 4: Member shopping on Wednesday

(Both Member discount and mid-week food item discount provided)

	_					
Enter Enter	Item Code: Qty: 1 Unit Price ter more ite	: 5.35	ss Y; to	end pre	ss N: Y	
Enter Enter	Item Code: Qty: 3 Unit Price ter more ite	: 2.30	ss Y; to	end pre	ss N: Y	
Enter Enter	Item Code: Qty: 2 Unit Price ter more ite	: 7.30	ss Y; to	end pre	ss N: N	
The sh	opper a loyalt	y memb	er? y			
	r No: KJ35 2	•				
Outpu						
			ABC STO	ORE		
			CINCADO	שתו		
			SINGAPO	ORE		
			SINGAPO INVOIO			
Date	of Purchase	e: 4-Mā	INVOI	CE	У	
	of Purchase		INVOIC	CE Wednesda Cost	Discount	Net
SNo	Item Code	 Qty	INVOIC	CE Wednesda Cost	Discount	
SNo	Item Code	 Qty	INVOIC	CE Wednesda Cost	Discount	
SNo 0 1 2	Item Code A123 F432 C234	 Qty	INVOIC	CE Wednesda Cost	Discount	4.82 5.52 14.60
SNO 0 1 2 	Item Code A123 F432 C234 Total r Discount	Qty 1 3 2	INVOIC 2r-2009 M 	CE Tednesda Cost 5.35 6.90 14.60	Discount 0.00 1.38 0.00	

Note:

- Mid-week discount provided for item F432.
- Member Number and 10% Member discount provided below the Gross Total line.



