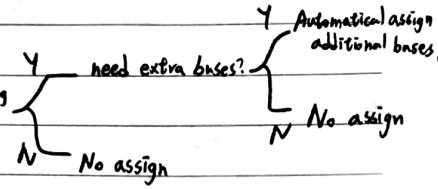
14.

Decision Table	1	2	3	4
routes are operating on schedule	N	N	Y	Y
need extra buses	N	Y	N	Y
automatical assign additional buses			X	

- If the routes are operating on schedule and need extra buses now, then the system will automatically assign additional buses.

Simplify	1	2	3	4
routes are operating on schedule	–	–	–	Y
need extra buses	–	–	–	Y
Automatical assign additional buses			X	

Decision Tree



15.

diagram 0 errors

1. D6 | Appointment • same data input/output
2. D1 | Service data • same data input/output.
3. D9 | MTD CHARGE • same data input/output.
4. [illegible]
D4 | MTD PAYMENT • doesn't have the input.

diagram 1 errors

1. D26 | Scheduled • same data input/output
2. D25 | APPOINTMENT • same data input/output.
3. 1.6 F06 ~ 1.3 F08 • same data input/output.
4. PATIENT • Doesn't get the input back.
5. Provider • Doesn't get the input back
6. D22 | PENDING • Doesn't get the output
7. D7 | MTD • Doesn't get the output
8. D24 | APPT • Doesn't get the output
9. D28 | Service • Doesn't get the output
10. Insurance • Doesn't get the output
11. D21 | Insurance • Doesn't get the input back

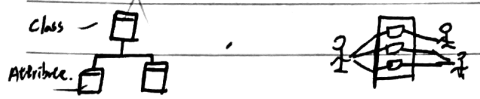
Ans.

- list the data elements required
- Households (D5)
  - input / charge, YTD PAYMENTS, HOUSEHOLD UPDATE.
  - output / household data.
- PATIENTS (D2)
  - input / Patient update,
  - output / Patient data,
- INSURANCE (D21)
  - input / Insurance update.
  - output / Insurance carrier data.
- SCHEDULED APPT DATA (D25)
  - input / APPT Data.
  - output / APPT detail data.

學年		學期		日期	3/10	考別	□平時考 □期中考 □學期考
科目	系統分析與設計.					評分	44
系所	資訊管理系	年級	二	學號	B10523030	姓名	阿本分 Jemp

Ans.

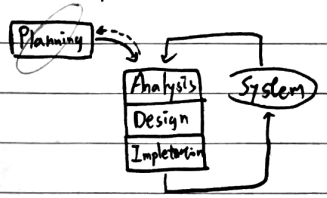
1. The OO paradigms is more important at their class and attribute, we can see the relation with the class like father and son. And the Use-case paradigms is important at their process.



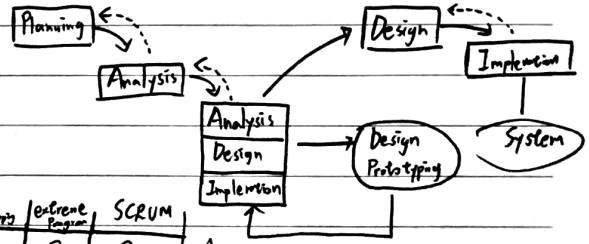
OO paradigms

Use-Case paradigms.

2. extreme programming



throwaway prototyping



	Waterfall	Pbuilder	Phased	Prototyping	Throwaway Prototyping	extreme Programming	SCRUM
requirement	X	X	△	○	○	○	○
tech.	X	X	△	X	○	△	△
complex.	△	△	△	X	○	△	△
reliable.	△	△	△	X		○	○
short time.	X	△	○	○	△	○	○
visitor.	X	X	○	○	△	○	○

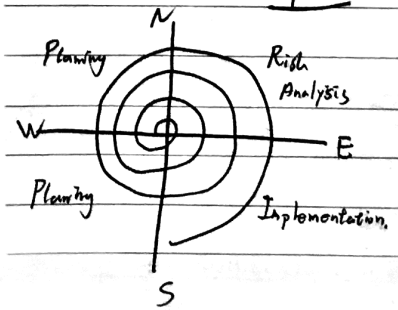
Ans.

- extreme is faster than Throwaway prototyping and it is suitable in small project and high skill develop team.
- Throwaway Prototyping is good at complex project it has the better reliable.

Ans.

3. • The most important phase in the SDLC is "Analysis" because we must to know what is the customer's requirement. It must be very careful to know the customers they need. It is related to V&V because it will be check and conform the requirment.

4. It is look like a spiral!



Ans.

- It is step by step just like waterfall.
- If the development are stuff, we can throw it away. like a throwaway prototyping with the use of waterfall development
- So I think it is more likely a spiral!

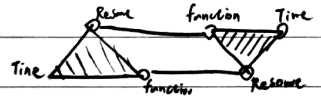
5. • big ampany
   • not big
   • quick way
   • highly reliability
   • short time schedule
   • schedule visibility.

Ans.
• I would use "extreme programming (XP)" to design the system.
because it need short time schedule and visibility, so I think extreme programming or SCRUM is the better way.
And it is not big project and quick way. So I must chose extreme Programming.

6. • new Information system
   • automate the sales transaction
   • manage inventory for each retail store
   • be installed, exchange data.
   • head office.

Ans.
• I would use "Unified Process (UP)" to design the system.
because the system manage inventory for each retail store in a large chain, it is very big system and must has high reliable, we has the head office and every store can exchange data. So I must choose Unified Process(UP), it is the best choice.

Ans.
7. • The 80-20 principle is mean we can use the 20% time to create 80% function.
We don't have enough time to be developed. but the recourse and function can be choice.
In the same time, if we create more function it may be more risk to complete on time, but if we don't need create most function, it is lower risk to complete on time.

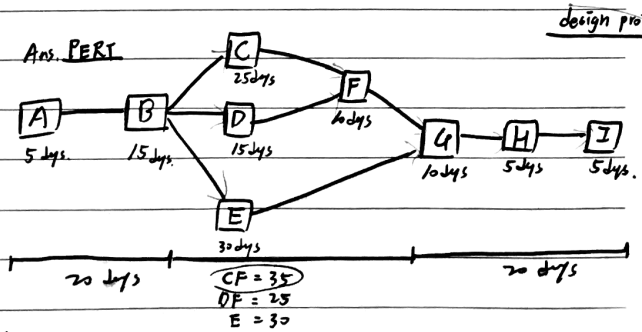


• Time is fixed, we must complete on time.
• but we can change our resource and function

Ans.
8. ① The NW-Determine is to analysis the Risk, If the risk too high, we may pass the next step to keep the risk analysis
② NE-Evaluate be identified in the Prototyp. we fix and check the prototype evaluate.
③ If there are remainning risk, the subsequent steps would go to SW
④ If the previous cycles have resolved the risk, then the subsequent step could proceed to SE
⑤ If the prototype produced are operational and robuse enough into final system, then the prototype is a design prototype

9. • (5 working days in 1 week)
   • Determine the critical path.
   • draw the PERT.
   • Calculate the days and weeks.

Ans. PERT



Ans.
1. The critical path is 75 days of A.B.C.F.G.H.I
2. ⇒ Use 75 days and 15 weeks to planned the project.

10,
b, • Option 1 : costs 4000 but entire amount
• Option 2 : costs 5000 but made 1000 per year.
• analysis assuming 14%, which is less expensive.
• analysis assuming 8%, which is less expensive.

Ans, ① assuming 14%, Option 2 is less expensive.
② assuming 8%, Option 1 is less expensive.

Option 2
$\frac{1000}{(1.14)^0} + \frac{1000}{(1.14)^1} + \frac{1000}{(1.14)^2} + \frac{1000}{(1.14)^3} + \frac{1000}{(1.14)^4}$
= 1000 + 878 + 784 + 714 + 597 ≒ 3978
I don't have calculate..

$\frac{1000}{(1.08)^0} + \frac{1000}{(1.08)^1} + \frac{1000}{(1.08)^2} + \frac{1000}{(1.08)^3} + \frac{1000}{(1.08)^4}$
= 1000 + ~~938~~ 925 + 856 + 792 + 733 ≒ 4306

11,
UUCW = UUCP + UAW
100 = 84 + 16
EFactor = 1.5+1.0+5+2.5+3.0+1.0+(-4.0)+(-4.0)
= 23
EF = 1.4 + (-0.03 × 23) = 0.71
UCP = UUCW × TCF × EF
= 100 × 0.75 × 0.71 = 54.25
EPH = UCP × PHM = 54.25 × 28 = 1519

Ans. UUCP = 84
EFactor = 23
EF = 0.71
UCP = 54.25
EPH = 1519

UAW = 16
UUCP = 84
UUCW = 100
CF = 15
TCF = 0.75
EF = 23
EP = 0.71
UCP = UUCW · TCF · EF = 54.25
EPH = 54.25 × 28 = 1519

Ans. 48 person needed
Working hours of month = 200
$\frac{1519}{200}$ ≒ 8 people × 6 month = 48

12, +0
context diagram

13, Ans.
Context diagram

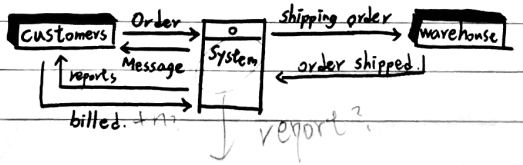


Diagram 0 DFD