

Discord for chatting : <https://discord.gg/4NwGfySu>

Permanently locked due to vandalism, good luck everyone 😊.

Section A:

Where do i find EAD????????????????????????????????????

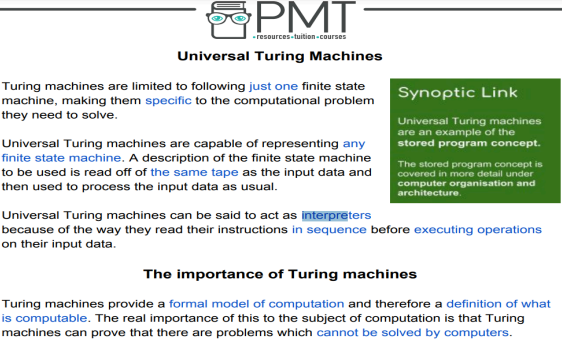
<https://mega.nz/file/h31BxSqa#25uadMUYmFQmSLchhJinh4w6wDYwBnZYArXvVY1G7x>

g

You're welcome :) thanks bbg :DDD

Question	Prediction	Examples of similar questions in the past	Comments
1 5 marks	Although it is possible that you would have to write even it is more likely that there would be follow up questions or knowledge questions rather than a stand alone pc question, whereas asking to just define or explain an abstract data type is more likely your own pseudocode to create a linear queue, i believed on its more stand alone nature <- would just asking for a definition of an abstract data type be worth 5 marks? Define in detail the operations/uses of a: Priority queue/circular queue/stack/hashtable/binary tree etc. ***WITH REFERENCE TO ITS POINTERS*** AQA Computer Science A-level: Fundamentals of Data Structures Revision - PMT	06 Two frequently completed actions when using a particular piece of software are undo and repeat. The undo action results in the state changing from the current state to the state previous to the user's most recent action, eg if the last action the user completed was to change the font of a selected piece of text from <i>Courier New</i> to <i>Chiller</i>, then if the undo action is selected the result will be to change the font of that text back to <i>Courier New</i>. The user is able to keep using the undo action to go back through all previous states. The repeat action results in the user's most recent action being applied again, eg if the last action the user completed was to change the font of a piece of text to <i>Chiller</i>, then if the repeat action is selected the result will be to change the font of the currently selected text to <i>Chiller</i>. The user is able to keep using the repeat action to apply the most recent action multiple times. The repeat action will only work when there is a most recent action that can be applied again. 061 Explain how a single stack can be used in the implementation of the repeat action and the undo action. [5 marks] Creation of a pseudocode for a linear queue.	^^^ yes it would, look at the 2017 paper 1 question 6. Although it does have a follow up question in the form of a 1 marker, it is one of very few instances of a 5 marker in paper 1 in section A ^^ that is fair enough, i would say that is more of an application question than a simple definition though ^^ i agree, but the basis of knowledge stems from ADT, you need to know it to answer the question.

2 3 marks	• RPN. • Time complexity identification. • Simple definitions (what is a set?). • Identification of data structure? • Design principles: Composition over inheritance etc. • Identification of sorting/optimisation/searching algorithms • Finite state machines • Vectors	Convert the following Reverse Polish Notation expressions to their equivalent infix expressions. (a) $3\ 4\ *$ _____ _____ (1) (b) $12\ 8\ +\ 4\ *$ _____ _____ (1) (c) Reverse Polish Notation is an alternative to standard infix notation for writing arithmetic expressions. State one advantage of Reverse Polish Notation over infix notation. _____ _____ (1) (Total 3 marks)	Logic question. (this is unlikely, the historical logic questions have 2 marks for the logic question itself and 1-2 follow up questions, however the marks of this paper do not match the trends, it is more likely to be 3 RPN questions or something).
3 13 marks	• Some kind of trace table maybe? • Binary trees or vectors • Big O Notation?	It could be similar to the 'factorial questions' on the 2020 paper 1 Q3.1-3.7	The AQA course has generally changed its approach to logic questions over time. I believe it is reasonable to assume that this could be a long winded logic question. ^^ Does anyone think its more likely to be a vector question? I havent seen it come up that much.
4 6 marks	Could possibly be BNF or context free language. They come up often. Adjacency list possibly. (adj list and matrix could come up in the section		

	yes, but it is more likely to come up in q5 with the turing trace table as a way of storing the information.. That is if it does come up)		
5 10 marks	Trace Table/ Turing Table (this is almost guaranteed, make sure you know as much as possible about turing machines and mealy machines and FSM, also remember they can ask you ' how is a UTM similar to an interpreter' which is just important to memorise)	2019 paper question 2. Literally the exact same layout... Refer to bottom of document 	Specimen questions have specifically asked about how a UTM is similar to an interpreter. It is a good one to memorise.

Computability and tractable/intractable problems?? - Heuristic approach
 Breadth and depth traversal?
 Searching and sorting pseudocode improvements

Section B:

Coding question (can't really predict)

This section tends to contain mathematical models or string comprehension/list comprehension.

If you want to revise this section it's good to do past papers as well as

'codewars'(<https://www.codewars.com>). The aqa spec tends to be similar to around 6~7 'KYU'.

(I would guess 7 most likely not 6)

(good to be safe and be able to do 6, but i agree it's more likely to be a 7)

What tags would you guys put for codewars?(fundamentals)

Section C:

Make sure you know how to identify + define

Difference between polymorphism applies to methods meaning that you are changing the method in a new class, inheritance applies to classes (this means it's a derived class).

https://mail.google.com/mail/u/0?ui=2&ik=20ff051ffb&attid=0.1&permmsgid=msg-f:1767404452858718753&th=188714fc5b166a21&view=att&disp=inline&realattid=f_libjz8wf0

Polymorphism

^^^ **EXAMPLE IN DASTAN???** I'm not sure. - Kotla i think GetPointsForOccupancy, sweet. <- **this is an example of overriding (overriding is a form of polymorphism)not polymorphism, im pretty sure Overriding is a form of polymorphism.**
(It's actually both or at least I think so. The GetPointsForOccupancy function is overridden in the Kotla subclass. This is an example of polymorphism because the same interface can be used for both objects to achieve the same goal and only the implementation differs between the classes)

‘__GetSquareReference’ is an example of polymorphism, this is because the same method is used for selecting the piece you want to move and the square you want to move it to.

Inheritance

^^^ **KOTLA CLASS**

Overriding

^^^ **WHEN A SUBCLASS HAS THE SAME NAME AS A METHOD IN THE MASTERCLASS, THE PROGRAM WILL USE THE METHOD OF THE SUBCLASS. AN EXAMPLE OF THIS IS:**
GetPointsForOccupancy

Association

Aggregation

^^^ **SQUARE + PIECE RELATIONSHIP**

(does that mean, when you remove a square occupied by a piece, the piece still exists?)

Composition

^^^ **EVERYTHING OFF THE DASTAN CLASS (E.G PLAYER)**

Encapsulation

Data can only be accessed through an interface (methods) and not directly - like in Player and many other classes that use getter and setter methods

Why would you use OOP instead of procedural? - To save time and memory etc since you do not need to re write procedures and can instead use inheritance etc etc

Label an inheritance / association diagram

WHAT IS 7.1 IT LOOKS LIKE THE MOVE OPTION QUEUE?!

Taken from Wikibooks and Zigzag:

7.1 State the name of an identifier for a public method in the Dastan class [1 mark] - PLAYGAME

7.2 Explain why this method is public and not private [2 marks] - For the python version it does not have the two underscores which identify private methods, also it is called from outside of the dastan class -> other objects and classes need to call the public method for the game to work

8. How many points do you lose when you choose a move from position 1, 2 and 3 in the queue? [2 marks] - 1, 4, 7 <- explain this? Its on the code - init

9.1 Suppose you wanted to display the grid with 8 by 8 cells. What would you modify in the program? [1 mark] = instead of passing 6 and 6 into the dastan constructor in main pass in 8 and 8

9.2. State the name of an identifier for a class that inherits from another class [1 mark] - Kotla inherits from square

9.3 State the name of an identifier for a private method that has three parameters (including the object parameter). [1 mark] = CreateMoveOption

10.1 State the name of an identifier that is a Boolean variable [1 mark] - SquaresValid

10.2 What is the random module used for in the pre-release? [1 mark] - Forgot but isnt it to randomise the start move offer or the move option queue - you could use it for spacejump addition

11.1 State the name of a built-in function [1 mark] = int, bool etc

11.2 What effect does the super routine in class Kotla have? [1 mark]

^^ I believe that this question in particular is likely to come up because it requires specific programming knowledge of OOP (comes up in multiple languages) - it gives access to the contents of the square class

12. Give an example from the code of an object instantiation? [1 mark] = Thisgame = Dastan(6,6,4)

13. Explain why this method is private and not public? [2 marks]

[ZigZag - Theory Questions](#)

^ Are there any answers for these?

https://drive.google.com/file/d/1PU8zghDZGBHrrlOHtnZMxoByjhi0lX6T/view?usp=drive_link

^ zigzag resources this has everything

Any c sharp version of zigzag? I cant read python;

<https://mega.nz/folder/wm8zERRT#9V-EueQTD3eu-vVjqMzNhw> -> VB.NET/C# Version for all DASTAN stuff from zigzag (inc. passwords file)

Section D:

SpaceJump - once per game the player can choose to move a piece to a random place on the board

new moves / abilities - (9 - 13 marker)

promotion squares - (13 marker) Can someone explain this if possible or an example - Piece could reach the end of the board and become a mirza. Like in chess when a pawn reaches the end of the board and can upgrade to any piece. Maybe a piece could reach the end of the board and upgrade to a Kotla

altering the moveoptionqueue (10 marker)

adding names instead of player one and player two - (5 marker)

validating inputs - (5 marker)

one offer per turn (9 -13 marker)

altering the board size - (5 marker) - to add on this could maybe ask about letting user change Change game settings before game starts (queue size, offers, points to start etc) - (5 marks)

chance events on new turn - (9 - 13 marker) Can someone explain this or give an example?

^^ the weather question from zigzag, e.g. 25% chance for weather to spawn that destroys all pieces in the row its in

Portal square (9-13 marker)

Displaying what moves you can make after selecting your piece. Marking out on the board where the piece can move to. (9-13)

^^^ **How are you supposed to display this when kotla + mirza can be on the same square?? Print it next to the k lol just how the mirza behaves idk on python indentation stays fine ahh i see i doubt they would mark down for that anyway they would just do it with a test that doesnt go over a kotla i think yeah good idea i hop ehtat comes up its quite easy** Like 25% chance you would use `random.randint(1,4) == 1`

Where would you use this

Looking at task 4 of the

The 'Wafr' has a 25% chance of being awarded to a player on their turn

- i) Create a new method in the **Dastan** class called **AwardWafr**. This method should have a 25% chance of returning true.

```
def __AwardWafr(self):  
    return random.randint(1, 4) == 1
```

Can anyone explain the promotion square question? It isnt on wiki books, but im assuming you would do two pieces of code for each player - if a player 1 piece touches the row 6 then use Destroy piece method and just make a new piece but change it to the promoted piece type using the already made methods - i think that wouldnt be a 13 marker since you dont even need to make any new methods it would mostly just be changing play game and using already existing methods

Can anyone explain showing what squares you can move to for each turn (wiki)? - For this what you do is copy and paste display board into a new method in dastan - however within the inner loop at the end make an if statement - if squareisvalid and currentplayer.checkplayermove using the players startSQRRef and the row*10+Col from the for loop is valid then you print a symbol like "Λ" - then you run the method in play game just before a player enters their finish square

Does anyone have a solution for this - ME but its in python

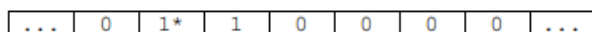
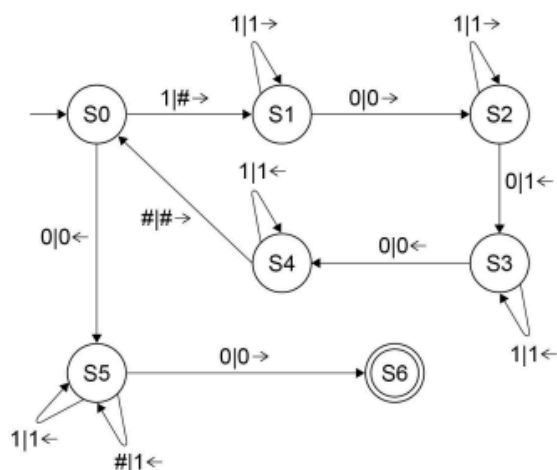
https://mail.google.com/mail/u/0?ui=2&ik=20ff051ffb&attid=0.1&permmsgid=msg-f:1767404452858718753&th=188714fc5b166a21&view=att&disp=inline&realattid=f_libjz8wf0

2019 Q2 → Q5 similar:

0 2

Figure 2 shows the transition function (represented as a state transition diagram) and part of the tape for a Turing machine designed to complete a task. The current position of the read/write head is indicated by the * symbol.

Figure 2



The label 1|#-> on the transition from S0 to S1 means if the machine is in state S0 and a 1 is read from the tape then a # should be written to the tape and then the read/write head moved one cell to the right.

0 2 . 1

After four steps of the computation have been completed, the current state, the tape contents and the position of the read/write head are:

Tape									Current state
...	0	#	1	0*	1	0	0	...	S3

Complete the unshaded cells of **Table 1** to show the result of tracing the computation of this Turing machine, from step five onwards. Show the contents of the tape, the current position of the read/write head and the current state as the input symbols are processed. Step four has been repeated at the start of the trace.

Table 1

Tape									Current state
...	0	#	1	0*	1	0	0	...	S3
...								...	
...								...	
...								...	
...								...	
...								...	
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Copy the contents of the unshaded cells in **Table 1** into the table in your Electronic Answer Document.

[5 marks]

0 2 . 2

What is the purpose of the Turing machine shown in **Figure 2**?

[1 mark]

0 2 . 3

What is the purpose of the transition from S5 to S6 in the Turing machine in **Figure 2**?

[1 mark]

0 2 . 4

Explain what a Universal Turing machine is.

[2 marks]

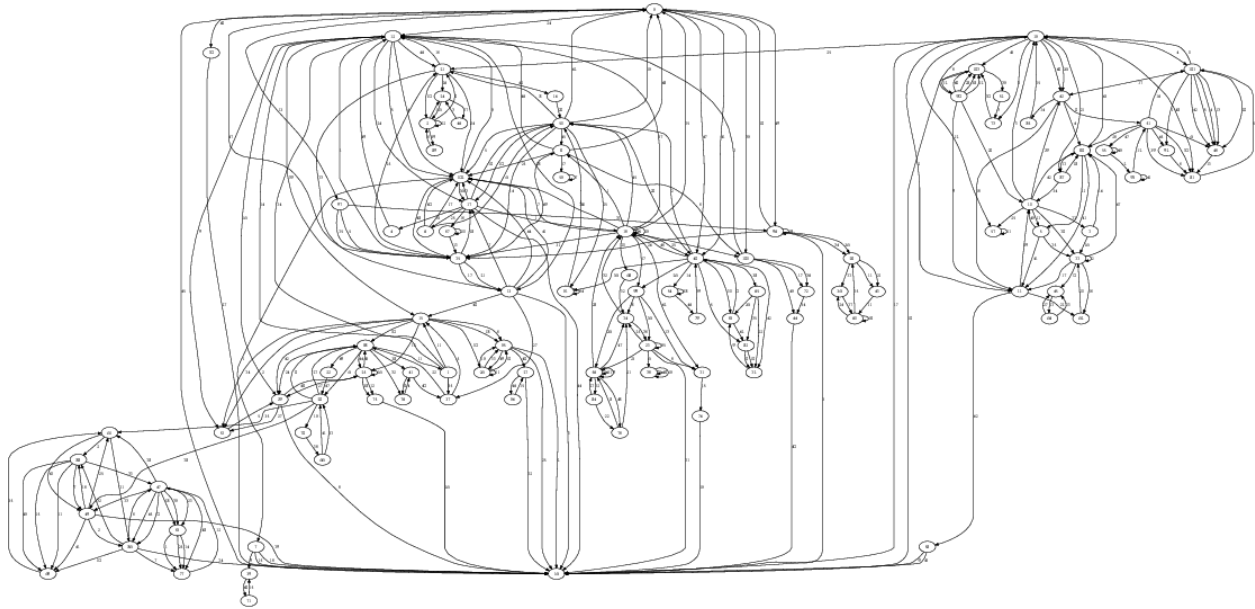
0 1

There are three boxes containing vegetables. One contains onions, one contains carrots and one contains onions and carrots. The three boxes have been labelled. One is labelled "onions", one is labelled "carrots" and the other is labelled "onions and carrots". You know that all three have been labelled incorrectly.

0 1 . 1

Describe how you can work out what each box actually contains by taking just **one** vegetable out of **one** box, without looking inside any of the boxes.

[2 marks]



Easiest Finite State Machine Question Based Of How Annoying AQA Have Been This Year
 Already With The Physics Papers (**I FAILED**) . based . lmao
 All good mmate see u in resits x
 Sameeeeeeee. It's been a long year.

WHICH ZIGZAG TASKS DO YOU RECCOMEND TO MEMORISE FOR SECTION D?

As much as you can
 All of them

Pmt is carrying my grade 😞

```
def __DisplayMovesOnTheBoard(self, CurrentPlayer, Choice, StartSquareReference):
    print("\n" + " ", end="")
    for Column in range(1, self._NoOfColumns + 1):
        print(str(Column) + " ", end="")
    print("\n" + " ", end="")
    for Count in range(1, self._NoOfColumns + 1):
        print("----", end="")
    print("\n")
    for Row in range(1, self._NoOfRows + 1):
        print(str(Row) + " ", end="")
        for Column in range(1, self._NoOfColumns + 1):
            Index = self.__GetIndexofSquare(Row * 10 + Column)
            print("|" + self._Board[Index].GetSymbol(), end="")
            PieceInSquare = self._Board[Index].GetPieceInSquare()
            if self.__CheckSquareIsValid(Row*10+Column, False) and CurrentPlayer.CheckPlayerMove(Choice, StartSquareReference, Row*10+Column):
                print("\n", end="")
                #print()
            elif PieceInSquare is None:
                print(" ", end="")
            else:
                print(PieceInSquare.GetSymbol(), end="")
        print("\n")
        print("  ", end="")
    for Column in range(1, self._NoOfColumns + 1):
        print("----", end="")
    print()
    print()
```

This may be a bit simpler to remember:

```

def __ShowMoves(self, CurrentPlayer, Choice, StartSquareReference):
    '''1. Look through the board rows, columns
       2. Translate these into the list terms [index]
       3. need to find the squares that are valid and also the move options to
present
       4. Get rid of the symbols put into the board'''
    availableSquare = Piece('available', None, 0, '*')
    # Add * to represent move options
    for rows in range (1, self._NoOfRows + 1):
        for col in range(1, self._NoOfColumns + 1):
            Index = self.__GetIndexOfSquare(rows * 10 + col)
            if self.__CheckSquareIsValid(rows * 10 + col, False) and
CurrentPlayer.CheckPlayerMove(Choice, StartSquareReference, rows * 10 + col):
                self._Board[Index].SetPiece(availableSquare)
    # Output board
    self.__DisplayBoard()
    # Remove *
    for rows in range (1, self._NoOfRows + 1):
        for col in range(1, self._NoOfColumns + 1):
            Index = self.__GetIndexOfSquare(rows * 10 + col)
            if self._Board[Index].GetPieceInSquare() is not None and
self._Board[Index].GetPieceInSquare().GetSymbol() == '*':
                self._Board[Index].SetPiece(None)

```

GN Fellas. We all gonna smash this test, just stay calm because all of us here can do anything 😊

Dont listen to this guy, we're all gonna fail and not make it to Uni ← big facts

This feels like one of those logic questions I hate, the truth ones.

T
Ngl?

How many marks is each section? 10

Are you guys able to do all the codingg tasks on ZigZag or wikibooks? beacuse I cant do some of the big ones so I just look over the code .Thats what I am doing now just looking over the worked solutions

I cant do half of the questions. Doing the same as you at this point.