Chapter 30 Software Development: Answers to coursebook questions and tasks

Syllabus sections covered: 4.4

Task 30.01

Test data for the number guessing game

Type of test data	Example test data	Expected output
valid	same as secret number	congratulation
valid	any integer	consolation message
invalid	any non-number	program crashes

Test data for the Connect4 game

The only input is column number

Type of test data	Example test data	Expected output
Normal	a number between 1 and 7 test for a winning line: four same colour in a column four same colour in a row	token should appear in the correct column should get the winner message
Boundary	a column where there are already five tokens a valid column in a grid where there is only one free space	it should fill the top row of that column the board should now be full, and it should give a message to that effect
invalid	0 or 8 a number between 1 and 7, but the column is already full	invalid column number error message can't add a token to a full column, so should get an error message

Question 30.01

There would be no difference to the critical path, because H still takes less time than E, F, G and K.

Question 30.02

Activity

Identify requirements																											

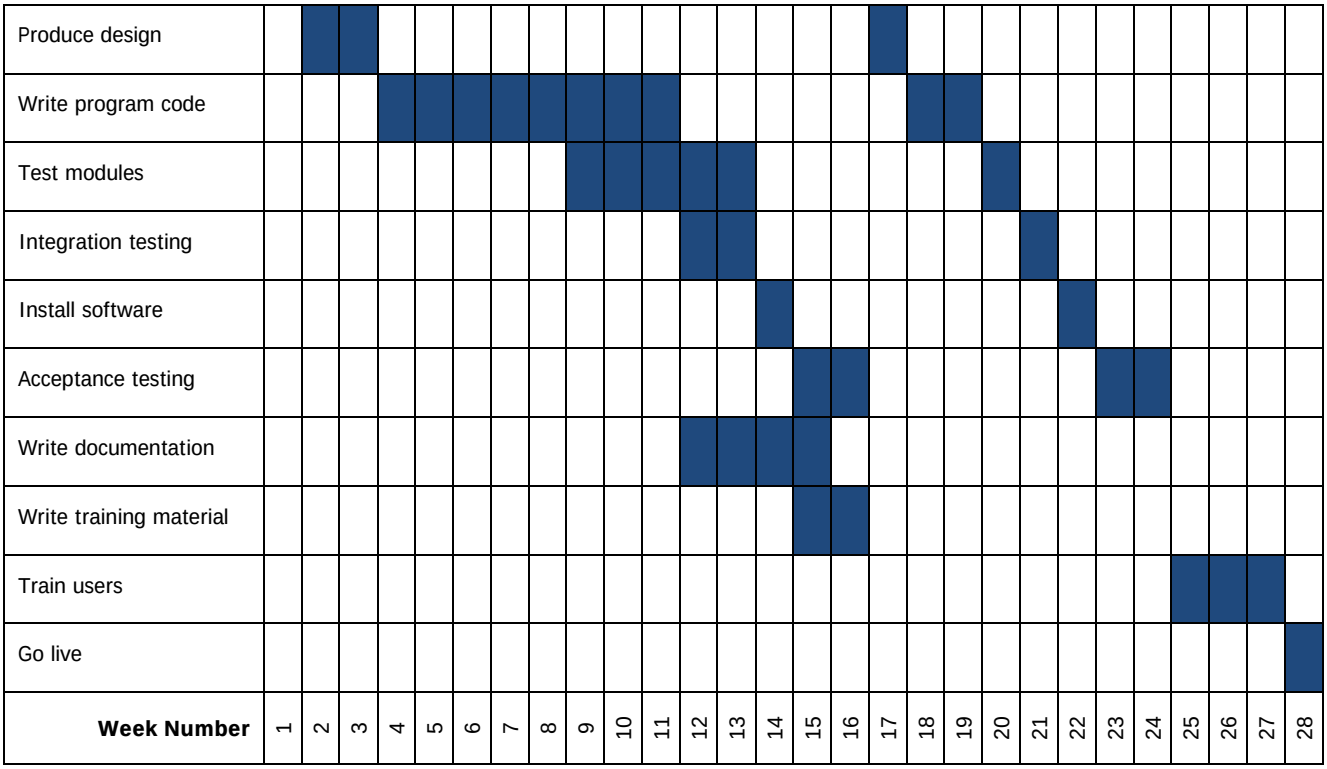

Figure 30.2

Exam-style Question 1

Test data for the parameter NumberToDraw:

Type of test data	Example test data	Expected output	Justification
Normal	1 4 5 6	/ //// ////\ ////\/	Check correct number of bars output and fifth bar sloping the other way
Boundary	0		0 is smallest possible value and no bars should be output
Extreme	e.g. 45	////\////\////\////\////\////\////\ ////\////\	How is the procedure going to deal with a large number, more than number of bars that fit on a line

Exam-style questions

2 a i

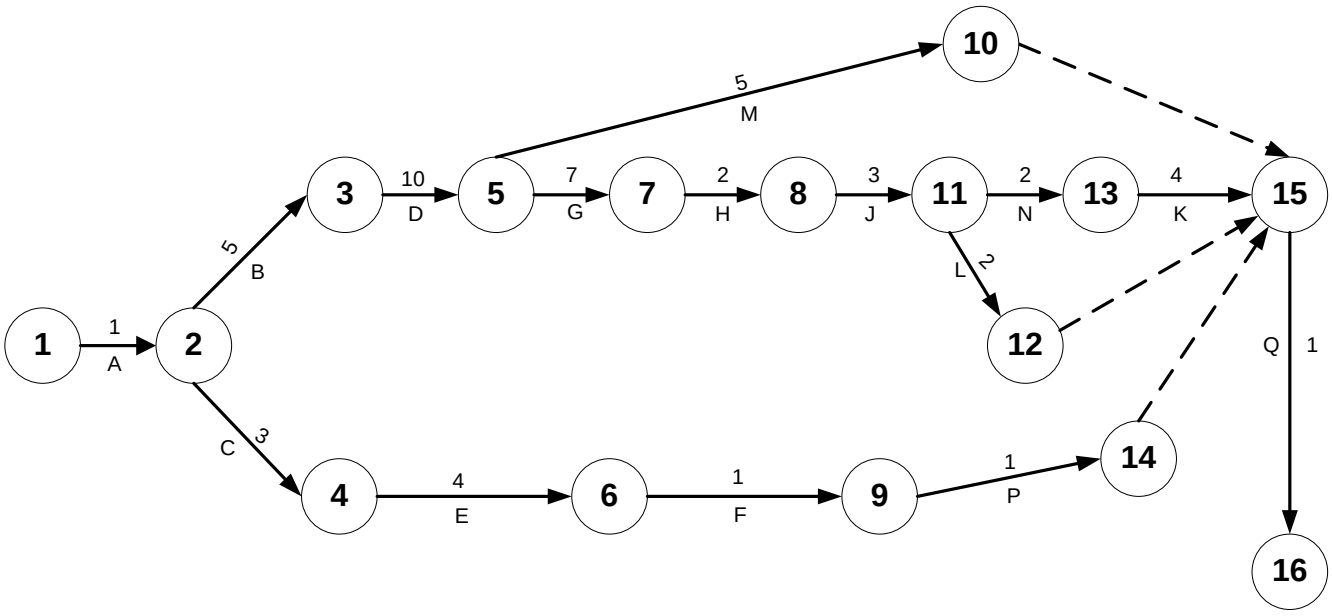

Figure 30.03

ii Critical path: A, B,D,G,H,J,N,K,Q

b i

Activity / Week	Q	L	M	P	F	E	C	K	N	J	H	G	D	B	A
1															■
2							■							■	
3							■							■	
4							■							■	
5						■								■	
6						■								■	
7						■							■		
8						■							■		
9					■								■		
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35	■														

Figure 30.04

ii Time required to complete project: 35 w