

5.	(b)		See possible algorithm below.	6	<p>Award 1 mark for asking user to enter 4 local authorities AND displaying bar chart heading</p> <p>Award 1 mark for correctly initialising and updating found and mid needed for the binary search</p> <p>Award 1 mark for conditional loop needed for the binary search</p> <p>Award 1 mark for correctly initialising and updating low and high needed for the binary search</p> <p>Award 1 mark for using result of binary search in the display (equivalent of Line 21)</p> <p>Award 1 mark for displaying location name together with stars used to represent the average rainfall for each selected LA.</p>
			<pre> 1. display bar chart heading 2. for user = 1 to 4 do 3. ask user for the name of a local authority 4. store value entered in location 5. set low = 0 6. set high = 31 7. found = false 8. while not(found) and low <= high 9. set mid = (low + high)/2 10. if rainfallArray[mid].local = location then 11. set found = true 12. end if 13. if rainfallArray[mid].local < location then 14. set low = mid + 1 15. end if 16. if rainfallArray[mid].local > location then 17. set high = mid - 1 18. end if 19. end while loop 20. display location 21. for stars = 0 to (rainfallArray[mid].averageRainfall - 1) do 22. display "*" on same line as location 23. end stars loop 24. display new line 25. end user loop </pre>		