| **(a)** | findFreeBlock |  |  |
| --- | --- | --- | --- |
|  | **Scoring Criteria** | **Decision Rules** |  |
| **1** | Loops over necessary minutes in an hour | Responses **can** still earn the point even if they  • loop over fewer than 60 minutes as long as at least (60 – duration + 1) minutes are included  • loop over 60 minutes and use a boolean  to indicate that a free block has been found | **1 point** |
| **2** | Calls isMinuteFree with period and another int parameter | Responses **can** still earn the point even if they  • call isMinuteFree with invalid parameters due to incorrect loop bounds    Responses **will not** earn the point if they  • use incorrect parameter types  • order the parameters incorrectly  • call the method on the class or on an object other than this (use of this is  optional) | **1 point** |
| **3** | Keeps track of contiguous free minutes in a block (*algorithm*) | Responses **can** still earn the point even if they  • call isMinuteFree incorrectly    Responses **will not** earn the point if they  • fail to reset when a nonfree minute is found  • call isMinuteFree with minutes >= 60 | **1 point** |
| **4** | Checks whether a valid block of  duration minutes has been found | Responses **can** still earn the point even if they  • maintain a boolean instead of accumulating the block length | **1 point** |
| **5** | Calculates and returns starting minute and -1 appropriately based on  identified block (*algorithm*) | Responses **will not** earn the point if they  • are off by one on the returned value | **1 point** |
|  |  | **Total for part (a)** | **5 points** |

| **(b)** | makeAppointment |  |  |
| --- | --- | --- | --- |
|  | **Scoring Criteria** | **Decision Rules** |  |
| **6** | Loops over periods from  startPeriod through  endPeriod (*no bounds errors*) |  | **1 point** |
| **7** | Calls findFreeBlock and reserveBlock with correct number of int parameters, representing a period and minute as appropriate, and duration | Responses **can** still earn the point even if they  • use incorrect parameter values    Responses **will not** earn the point if they  • use incorrect parameter types  • order the parameters incorrectly  • call the methods on the class or on an object other than this (use of this is  optional) | **1 point** |
| **8** | Guards call to method to reserve a  block by determining that starting minute is not -1 |  | **1 point** |
| **9** | Books correct appointment and returns appropriate boolean (*algorithm*) | Responses **can** still earn the point even if they  • have incorrect bounds in the loop  • call findFreeBlock or  reserveBlock incorrectly    Responses **will not** earn the point if they  • fail to return true or false  • return before the call to reserveBlock | **1 point** |
|  |  |  | **4 points** |
|  | **Question-specific penalties** |  |  |
|  | None |  |  |
|  |  | **Total for question 1** | **9 points** |