



4.2.2 Jackson Structured Programming

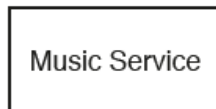
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3 An internet based music streaming service provides access to an unlimited number of songs for members to play.

The following pseudocode represents the operation of the service.

```
CALL OpenAccount()
CALL OperateAccount()
CALL CloseAccount()
PROCEDURE OperateAccount()
    WHILE RequestCloseAccount() = FALSE
        IF SubscriptionDue() = TRUE
            THEN
                CALL MakePayment()
            ELSE
                CALL PlaySong()
            ENDIF
        ENDWHILE
    ENDPROCEDURE
```

(a) Complete the JSP structure diagram for this music service from the pseudocode given.

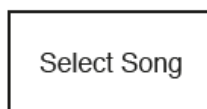


[5]

(b) The service needs extending so that members can download songs to play offline.

- When a member selects a song, the service checks if the song has already been downloaded.
- If the member has already downloaded the song, the member has the option to delete or play it.
- If the member has not already downloaded the song they have the option to download or stream it.

Complete the following JSP structure diagram to represent these new requirements.



[4]

