READ XML FILES

STORE XML ELEMENT TREES IN MEMORY

LOOP ASK FOR START STATION

CHECK IF STATION EXISTS

GET START LINES

LOOP ASK FOR END STATION

CHECK IF STATION EXISTS

GET TARGET LINES

IF START STATION IS EQUAL TO END STATION

DO NOT PROCESS

IF START LINES CONTAINS ANY TARGET LINES

ROUTE = START STATION -> TARGET LINE -> END STATION

CALCULATE DISTANCE

IF SMALLEST DISTANCE

SET CURRENT ROUTE TO MAIN ROUTE

SET NEW SMALLEST DISTANCE

GET ALL START STATION LINES

GET ALL END STATION TARGET LINES

LOOP THROUGH ALL THE STATIONS IN THE START LINES (STATION1)

GET ALL STATION LINES FOR STATION1 (LINE2)

LOOP THROUGH ALL STATIONS IN LINE2

IF LINE2 CONTAINS ANY OF THE TARGET LINES

ROUTE = START STATION -> START LINE -> STATION1 -> LINE2 -> END STATION

CALCULATE DISTANCE

IF SMALLEST DISTANCE

SET CURRENT ROUTE TO MAIN ROUTE

SET NEW SMALLEST DISTANCE

DISPLAY MAIN ROUTE

IF MAIN ROUTE SIZE IS 3

GET ZONE1 FROM STATION NAME = ROUTE[0]

GET ZONE2 FROM STATION NAME = ROUTE[2]

ELSE

GET ZONE1 FROM STATION NAME = ROUTE[0]

GET ZONE2 FROM STATION NAME = ROUTE[2]

GET ZONE3 FROM STATION NAME = ROUTE[4]

CALCULATE ZONE PROCES

DISPLAY PRICE

PRICE REMAINING = PRICE

INFINTE LOOP ASK USER FOR COIN INPUT WHERE INPUT=[ '1p', '2p', '5p', '10p', '20p', '50p', '£1', '£2']

PRICE REMAINING -= INPUT\_VALUES

IF PRICE REMAINING TO PAY IS LESS THAN 0

DISPLAY CHANGE

DISPLAY TICKET

END