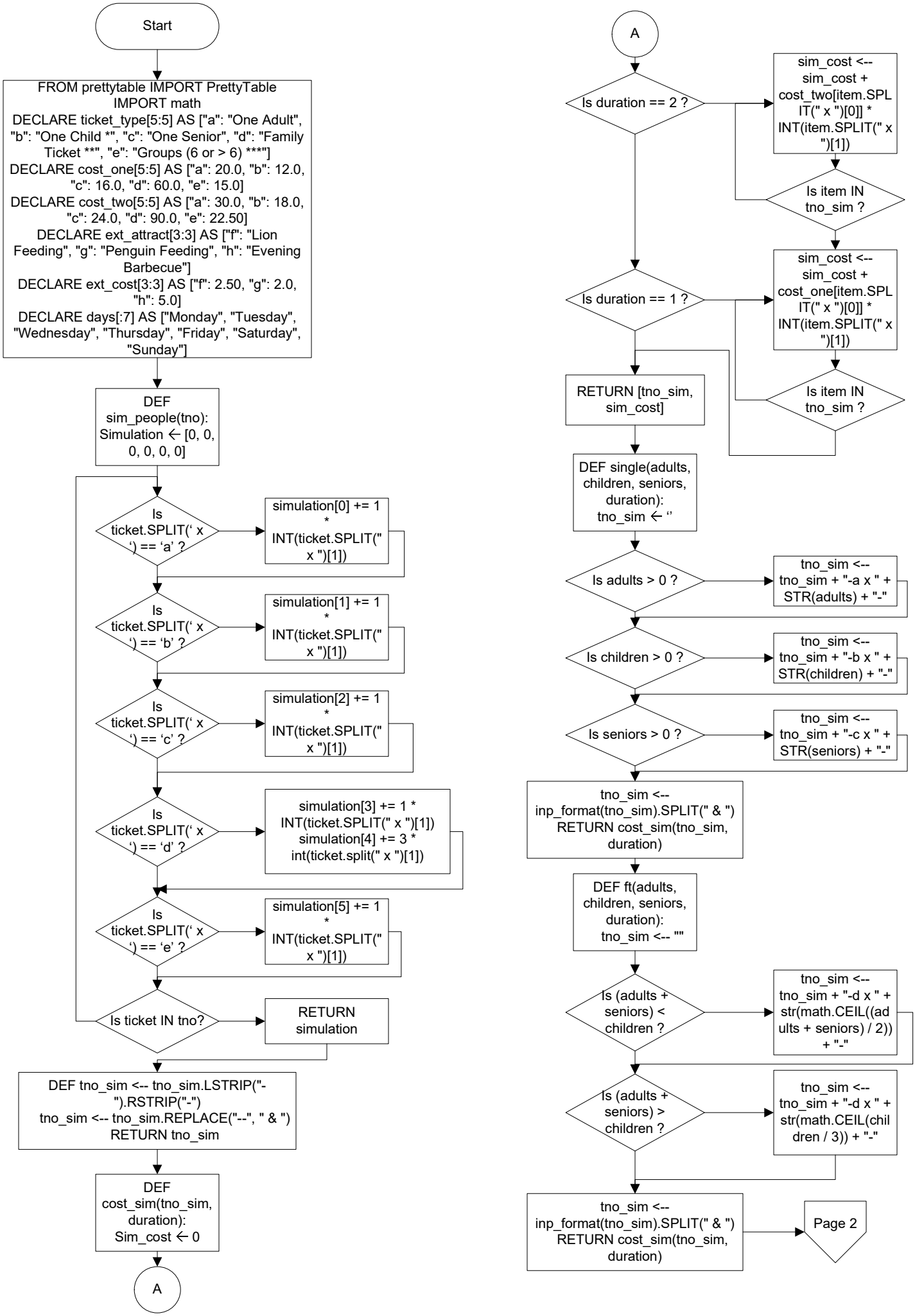
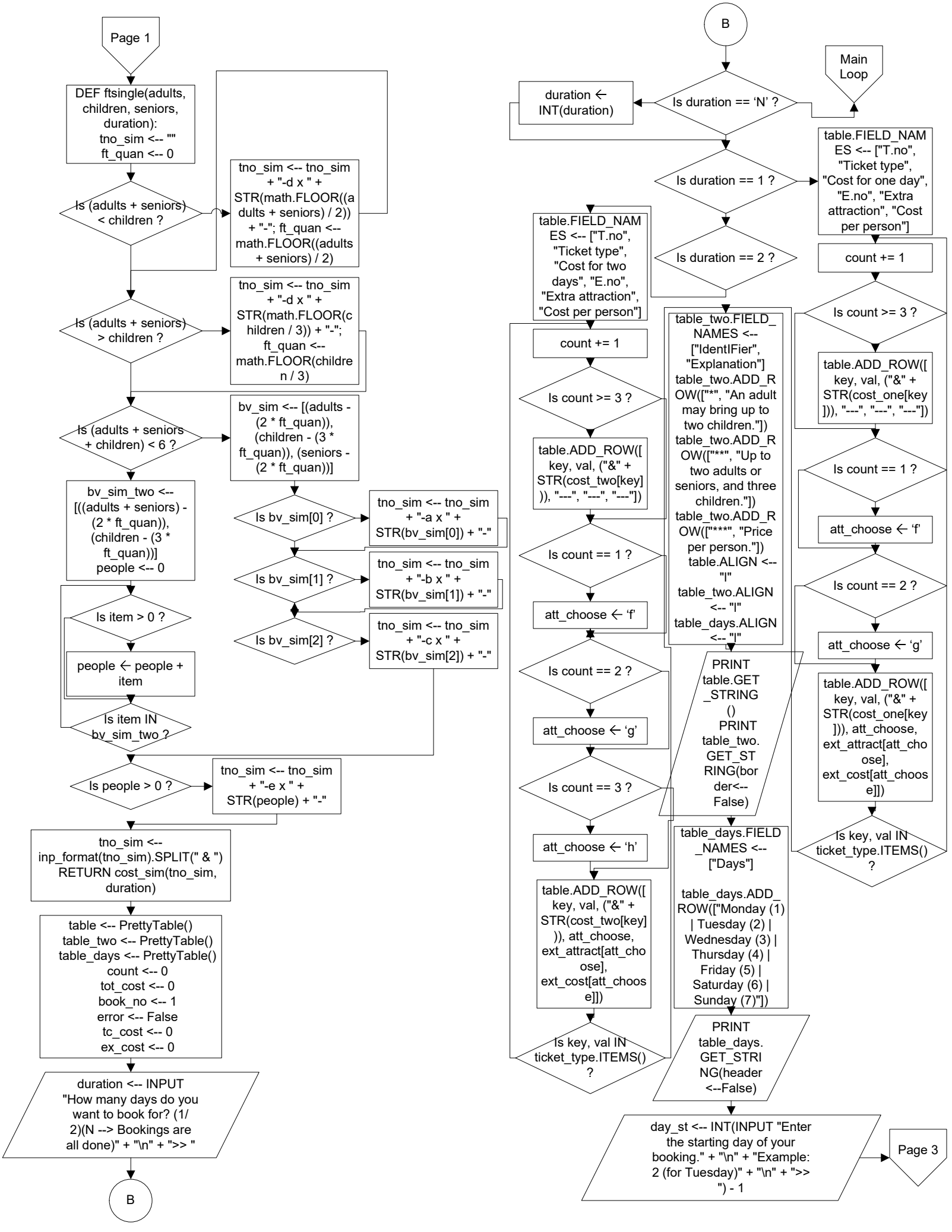
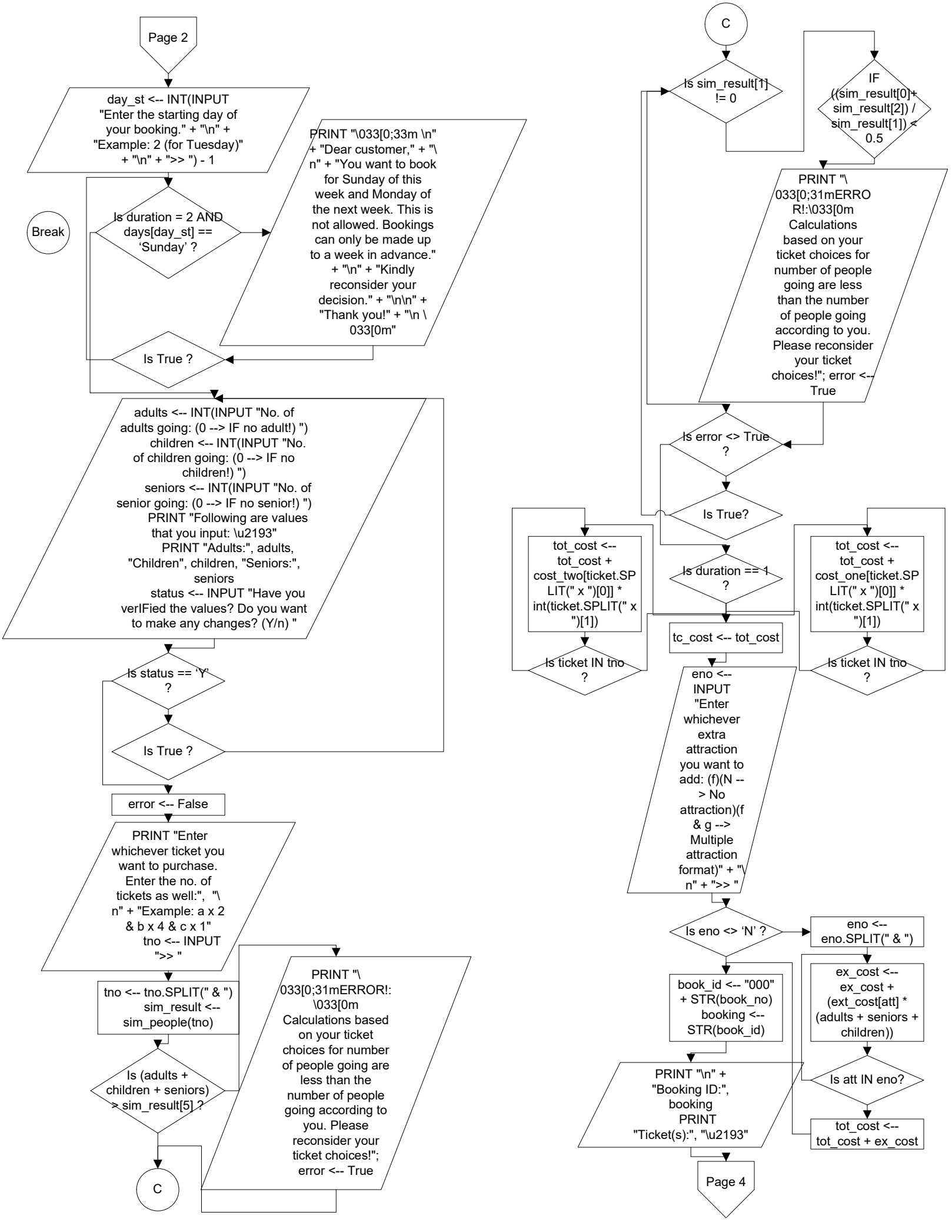
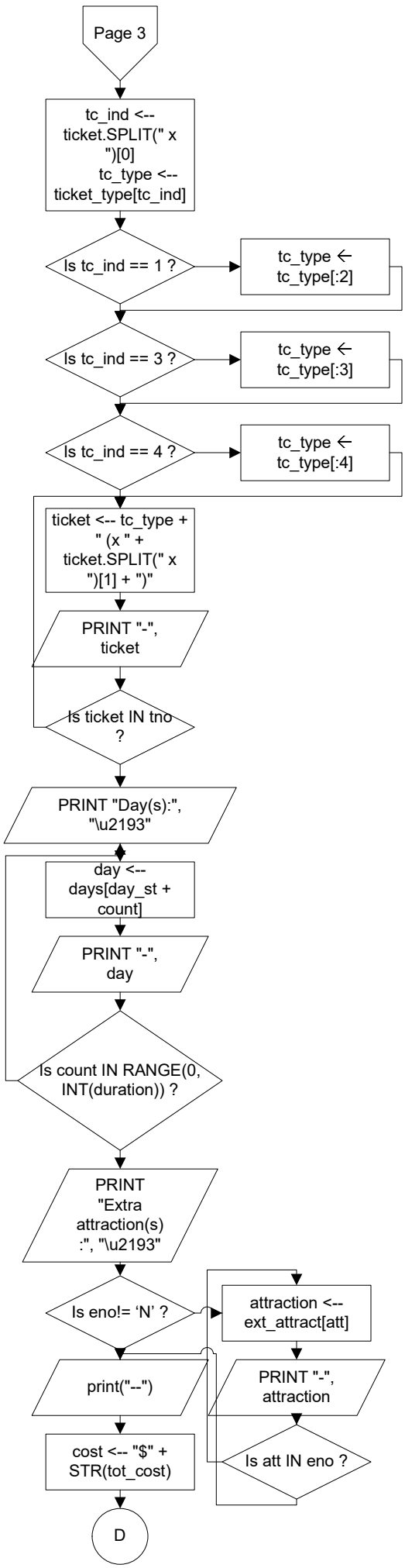
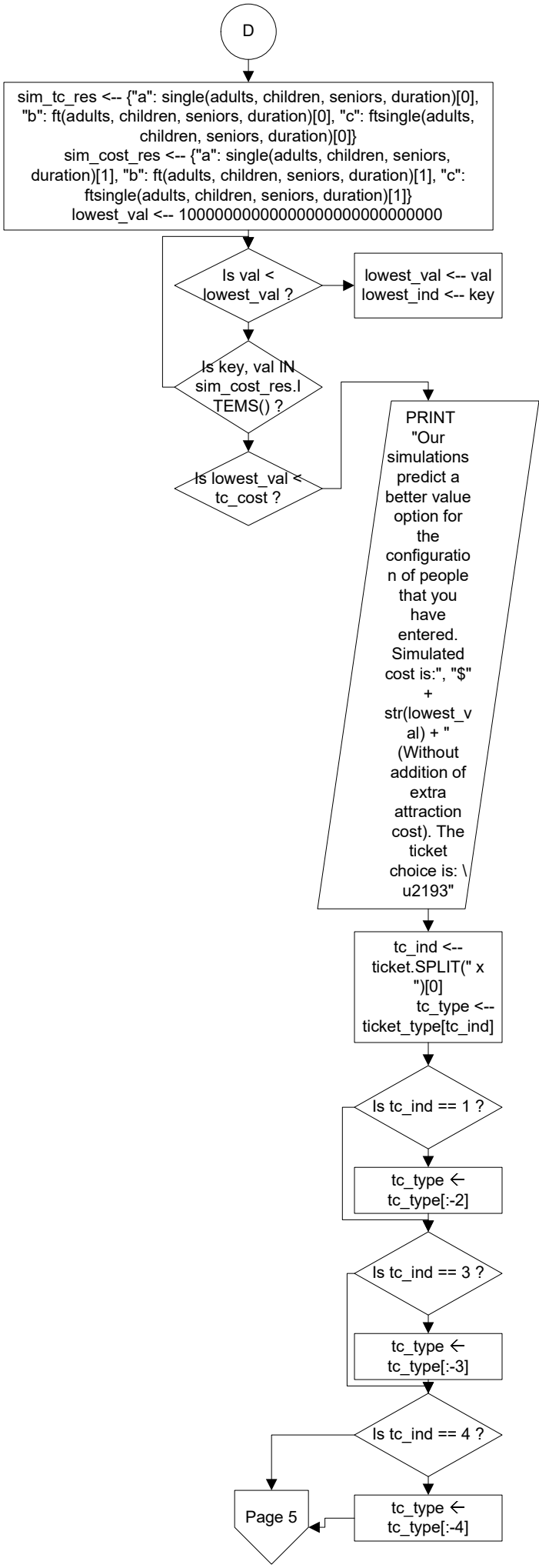
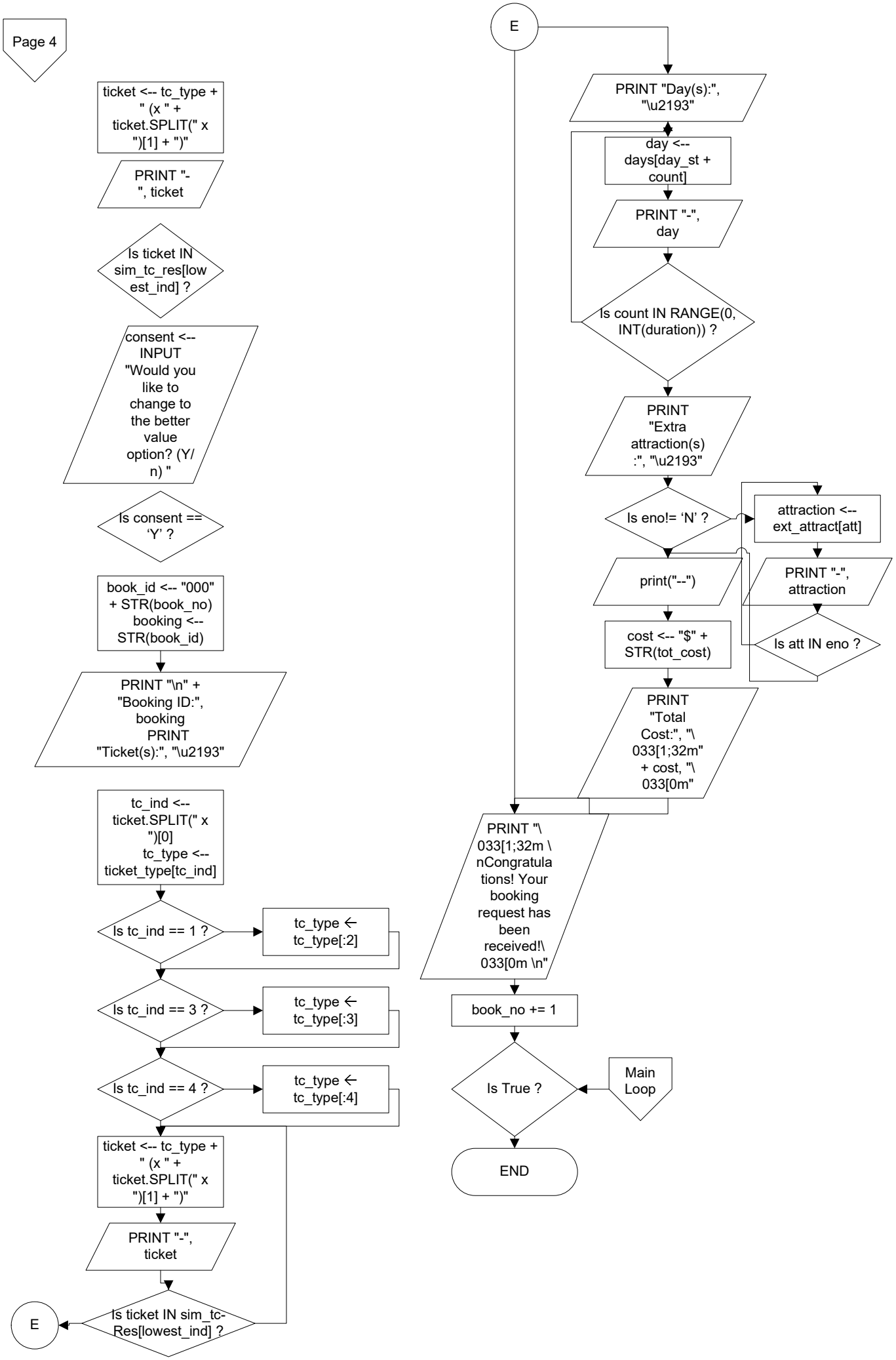

Start
FROM prettytable IMPORT PrettyTable
IMPORT math
DECLARE ticket_type[5:5] AS ["a": "One Adult", "b": "One Child *", "c": "One Senior", "d": "Family Ticket **", "e": "Groups (6 or > 6) ***"]
DECLARE cost_one[5:5] AS ["a": 20.0, "b": 12.0, "c": 16.0, "d": 60.0, "e": 15.0]
DECLARE cost_two[5:5] AS ["a": 30.0, "b": 18.0, "c": 24.0, "d": 90.0, "e": 22.50]
DECLARE ext_attract[3:3] AS ["f": "Lion Feeding", "g": "Penguin Feeding", "h": "Evening Barbecue"]
DECLARE ext_cost[3:3] AS ["f": 2.50, "g": 2.0, "h": 5.0]
DECLARE days[:7] AS ["Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday", "Sunday"]
DEF sim_people(tno):
Simulation ← [0, 0, 0, 0, 0, 0]
Is ticket.SPLIT(‘ x ‘) == ‘a’ ?
simulation[0] += 1 * INT(ticket.SPLIT(" x ")[1])
Is ticket.SPLIT(‘ x ‘) == ‘b’ ?
simulation[1] += 1 * INT(ticket.SPLIT(" x ")[1])
Is ticket.SPLIT(‘ x ‘) == ‘c’ ?
simulation[2] += 1 * INT(ticket.SPLIT(" x ")[1])
Is ticket.SPLIT(‘ x ‘) == ‘d’ ?
simulation[3] += 1 * INT(ticket.SPLIT(" x ")[1])
simulation[4] += 3 * int(ticket.split(" x ")[1])
Is ticket.SPLIT(‘ x ‘) == ‘e’ ?
simulation[5] += 1 * INT(ticket.SPLIT(" x ")[1])
Is ticket IN tno?
RETURN simulation
DEF tno_sim <-- tno_sim.LSTRIP("-").RSTRIP("-")
tno_sim <-- tno_sim.REPLACE("--", " & ")
RETURN tno_sim
DEF cost_sim(tno_sim, duration):
Sim_cost ← 0
A
A
Is duration == 2 ?
sim_cost <-- sim_cost + cost_two[item.SPLIT(" x ")[0]] * INT(item.SPLIT(" x ")[1])
Is item IN tno_sim ?
Is duration == 1 ?
sim_cost <-- sim_cost + cost_one[item.SPLIT(" x ")[0]] * INT(item.SPLIT(" x ")[1])
Is item IN tno_sim ?
RETURN [tno_sim, sim_cost]
DEF single(adults, children, seniors, duration):
tno_sim ← ‘’
Is adults > 0 ?
tno_sim <-- tno_sim + "-a x " + STR(adults) + "-"
Is children > 0 ?
tno_sim <-- tno_sim + "-b x " + STR(children) + "-"
Is seniors > 0 ?
tno_sim <-- tno_sim + "-c x " + STR(seniors) + "-"
tno_sim <-- inp_format(tno_sim).SPLIT(" & ")
RETURN cost_sim(tno_sim, duration)
DEF ft(adults, children, seniors, duration):
tno_sim <-- ""
Is (adults + seniors) < children ?
tno_sim <-- tno_sim + "-d x " + str(math.CEIL((adults + seniors) / 2)) + "-"
Is (adults + seniors) > children ?
tno_sim <-- tno_sim + "-d x " + str(math.CEIL(children / 3)) + "-"
tno_sim <-- inp_format(tno_sim).SPLIT(" & ")
RETURN cost_sim(tno_sim, duration)
Page 2


Page 1
DEF ftsingle(adults, children, seniors, duration):
tno_sim <-- ""
ft_quan <-- 0
Is (adults + seniors) < children ?
tno_sim <-- tno_sim + "-d x " + STR(math.FLOOR((adults + seniors) / 2)) + "-"; ft_quan <-- math.FLOOR((adults + seniors) / 2)
Is (adults + seniors) > children ?
tno_sim <-- tno_sim + "-d x " + STR(math.FLOOR(children / 3)) + "-"; ft_quan <-- math.FLOOR(children / 3)
Is (adults + seniors + children) < 6 ?
bv_sim <-- [(adults - (2 * ft_quan)), (children - (3 * ft_quan)), (seniors - (2 * ft_quan))]
bv_sim_two <-- [((adults + seniors) - (2 * ft_quan)), (children - (3 * ft_quan))]
people <-- 0
Is bv_sim[0] ?
tno_sim <-- tno_sim + "-a x " + STR(bv_sim[0]) + "-"
Is bv_sim[1] ?
tno_sim <-- tno_sim + "-b x " + STR(bv_sim[1]) + "-"
Is bv_sim[2] ?
tno_sim <-- tno_sim + "-c x " + STR(bv_sim[2]) + "-"
Is item > 0 ?
people ← people + item
Is item IN bv_sim_two ?
Is people > 0 ?
tno_sim <-- tno_sim + "-e x " + STR(people) + "-"
tno_sim <-- inp_format(tno_sim).SPLIT(" & ")
RETURN cost_sim(tno_sim, duration)
table <-- PrettyTable()
table_two <-- PrettyTable()
table_days <-- PrettyTable()
count <-- 0
tot_cost <-- 0
book_no <-- 1
error <-- False
tc_cost <-- 0
ex_cost <-- 0
duration <-- INPUT "How many days do you want to book for? (1/2)(N --> Bookings are all done)" + "\n" + ">> "
B
B
Main Loop
Is duration == 'N' ?
duration ← INT(duration)
Is duration == 1 ?
table.FIELD_NAMES <-- ["T.no", "Ticket type", "Cost for one day", "E.no", "Extra attraction", "Cost per person"]
count += 1
Is count >= 3 ?
table.ADD_ROW([key, val, ("&" + STR(cost_one[key])), "---", "---", "---"])
Is count == 1 ?
att_choose ← 'f'
Is count == 2 ?
att_choose ← 'g'
table.ADD_ROW([key, val, ("&" + STR(cost_one[key])), att_choose, ext_attract[att_choose], ext_cost[att_choose]])
Is key, val IN ticket_type.ITEMS() ?
Is duration == 2 ?
table.FIELD_NAMES <-- ["T.no", "Ticket type", "Cost for two days", "E.no", "Extra attraction", "Cost per person"]
count += 1
Is count >= 3 ?
table.ADD_ROW([key, val, ("&" + STR(cost_two[key])), "---", "---", "---"])
Is count == 1 ?
att_choose ← 'f'
Is count == 2 ?
att_choose ← 'g'
Is count == 3 ?
att_choose ← 'h'
table.ADD_ROW([key, val, ("&" + STR(cost_two[key])), att_choose, ext_attract[att_choose], ext_cost[att_choose]])
Is key, val IN ticket_type.ITEMS() ?
table_two.FIELD_NAMES <-- ["IdentIFier", "Explanation"]
table_two.ADD_ROW(["*", "An adult may bring up to two children."])
table_two.ADD_ROW(["**", "Up to two adults or seniors, and three children."])
table_two.ADD_ROW(["***", "Price per person."])
table.ALIGN <-- "l"
table_two.ALIGN <-- "l"
table_days.ALIGN <-- "l"
PRINT table.GET_STRING ()
PRINT table_two.GET_STRING(border<-- False)
table_days.FIELD_NAMES <-- ["Days"]
table_days.ADD_ROW(["Monday (1) | Tuesday (2) | Wednesday (3) | Thursday (4) | Friday (5) | Saturday (6) | Sunday (7)"])
PRINT table_days.GET_STRING(header <--False)
day_st <-- INT(INPUT "Enter the starting day of your booking." + "\n" + "Example: 2 (for Tuesday)" + "\n" + ">> ") - 1
Page 3


Page 2
day_st <-- INT(INPUT "Enter the starting day of your booking." + "\n" + "Example: 2 (for Tuesday)" + "\n" + ">> ") - 1
Break
Is duration = 2 AND days[day_st] == 'Sunday' ?
PRINT "\033[0;33m \n" + "Dear customer," + "\n" + "You want to book for Sunday of this week and Monday of the next week. This is not allowed. Bookings can only be made up to a week in advance." + "\n" + "Kindly reconsider your decision." + "\n\n" + "Thank you!" + "\n \033[0m"
Is True ?
adults <-- INT(INPUT "No. of adults going: (0 --> IF no adult!) ")
children <-- INT(INPUT "No. of children going: (0 --> IF no children!) ")
seniors <-- INT(INPUT "No. of senior going: (0 --> IF no senior!) ")
PRINT "Following are values that you input: \u2193"
PRINT "Adults:", adults, "Children", children, "Seniors:", seniors
status <-- INPUT "Have you verIFied the values? Do you want to make any changes? (Y/n) "
Is status == 'Y' ?
Is True ?
error <-- False
PRINT "Enter whichever ticket you want to purchase. Enter the no. of tickets as well:", "\n" + "Example: a x 2 & b x 4 & c x 1"
tno <-- INPUT ">> "
tno <-- tno.SPLIT(" & ")
sim_result <-- sim_people(tno)
Is (adults + children + seniors) > sim_result[5] ?
PRINT "\033[0;31mERROR!:\033[0m Calculations based on your ticket choices for number of people going are less than the number of people going according to you. Please reconsider your ticket choices!"; error <-- True
C
C
Is sim_result[1] != 0
IF ((sim_result[0]+ sim_result[2]) / sim_result[1]) < 0.5
PRINT "\033[0;31mERROR!:\033[0m Calculations based on your ticket choices for number of people going are less than the number of people going according to you. Please reconsider your ticket choices!"; error <-- True
Is error <> True ?
Is True?
Is duration == 1 ?
tot_cost <-- tot_cost + cost_two[ticket.SPLIT(" x ")[0]] * int(ticket.SPLIT(" x ")[1])
Is ticket IN tno ?
tot_cost <-- tot_cost + cost_one[ticket.SPLIT(" x ")[0]] * int(ticket.SPLIT(" x ")[1])
Is ticket IN tno ?
tc_cost <-- tot_cost
eno <-- INPUT "Enter whichever extra attraction you want to add: (f)(N --> No attraction)(f & g --> Multiple attraction format)" + "\n" + ">> "
Is eno <> 'N' ?
eno <-- eno.SPLIT(" & ")
book_id <-- "000" + STR(book_no)
booking <-- STR(book_id)
ex_cost <-- ex_cost + (ext_cost[att] * (adults + seniors + children))
Is att IN eno?
tot_cost <-- tot_cost + ex_cost
PRINT "\n" + "Booking ID:", booking
PRINT "Ticket(s):", "\u2193"
Page 4


Page 3
tc_ind <-- ticket.SPLIT(" x ")[0]
tc_type <-- ticket_type[tc_ind]
Is tc_ind == 1 ?
tc_type ← tc_type[:2]
Is tc_ind == 3 ?
tc_type ← tc_type[:3]
Is tc_ind == 4 ?
tc_type ← tc_type[:4]
ticket <-- tc_type + " (x " + ticket.SPLIT(" x ")[1] + ")"
PRINT "-", ticket
Is ticket IN tno ?
PRINT "Day(s):", "\u2193"
day <-- days[day_st + count]
PRINT "-", day
Is count IN RANGE(0, INT(duration)) ?
PRINT "Extra attraction(s) :", "\u2193"
Is eno!= 'N' ?
attraction <-- ext_attract[att]
PRINT "-", attraction
Is att IN eno ?
print("--")
cost <-- "$" + STR(tot_cost)
D


D
sim_tc_res <-- {"a": single(adults, children, seniors, duration)[0], "b": ft(adults, children, seniors, duration)[0], "c": ftsingle(adults, children, seniors, duration)[0]}
sim_cost_res <-- {"a": single(adults, children, seniors, duration)[1], "b": ft(adults, children, seniors, duration)[1], "c": ftsingle(adults, children, seniors, duration)[1]}
lowest_val <-- 10000000000000000000000000000
Is val < lowest_val ?
lowest_val <-- val
lowest_ind <-- key
Is key, val IN sim_cost_res.ITEMS() ?
Is lowest_val < tc_cost ?
PRINT "Our simulations predict a better value option for the configuration of people that you have entered. Simulated cost is:", "$" + str(lowest_val) + " (Without addition of extra attraction cost). The ticket choice is: \u2193"
tc_ind <-- ticket.SPLIT(" x ")[0]
tc_type <-- ticket_type[tc_ind]
Is tc_ind == 1 ?
tc_type ← tc_type[:-2]
Is tc_ind == 3 ?
tc_type ← tc_type[:-3]
Is tc_ind == 4 ?
tc_type ← tc_type[:-4]
Page 5


Page 4
ticket <-- tc_type + " (x " + ticket.SPLIT(" x ")[1] + ")"
PRINT "-", ticket
Is ticket IN sim_tc_res[lowest_ind] ?
consent <-- INPUT "Would you like to change to the better value option? (Y/n) "
Is consent == 'Y' ?
book_id <-- "000" + STR(book_no) booking <-- STR(book_id)
PRINT "\n" + "Booking ID:", booking PRINT "Ticket(s):", "\u2193"
tc_ind <-- ticket.SPLIT(" x ")[0] tc_type <-- ticket_type[tc_ind]
Is tc_ind == 1 ?
tc_type ← tc_type[:2]
Is tc_ind == 3 ?
tc_type ← tc_type[:3]
Is tc_ind == 4 ?
tc_type ← tc_type[:4]
ticket <-- tc_type + " (x " + ticket.SPLIT(" x ")[1] + ")"
PRINT "-", ticket
Is ticket IN sim_tc-Res[lowest_ind] ?
E
E
PRINT "Day(s):", "\u2193"
day <-- days[day_st + count]
PRINT "-", day
Is count IN RANGE(0, INT(duration)) ?
PRINT "Extra attraction(s) :", "\u2193"
Is eno!= 'N' ?
attraction <-- ext_attract[att]
PRINT "-", attraction
Is att IN eno ?
print("--")
cost <-- "$" + STR(tot_cost)
PRINT "Total Cost:", "\033[1;32m" + cost, "\033[0m"
PRINT "\033[1;32m \nCongratulations! Your booking request has been received!\033[0m \n"
book_no += 1
Is True ?
Main Loop
END