

# PPS MINI PROJECT

SEMISTER: 2 (21-22)

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Project name: Train reservation system in c.

Section: Y1(Core) .

## **Algorithm:**

Step-1: Start

Step-2: Initialize variables

Step-3: Take the input from the user and calculate the price according to route

Step-4: Case1:Adult+Children ( if r=1 book tickets for route number 1 or if r=2 book tickets for route number 2 or if r=3 book tickets for route number 3 or if r=4 book tickets for route number 4 or if r=5 book tickets for route number 5 else go book route number 6)

: Case2:Adult ( if r=1 book tickets for route number 1 or if r=2 book tickets for route number 2 or if r=3 book tickets for route number 3 or if r=4 book tickets for route number 4 or if r=5 book tickets for route number 5 else go book route number 6)

: Case3:Exit

Step-5: Display the amount according to the route that choosed by the user

Step-6: Stop.

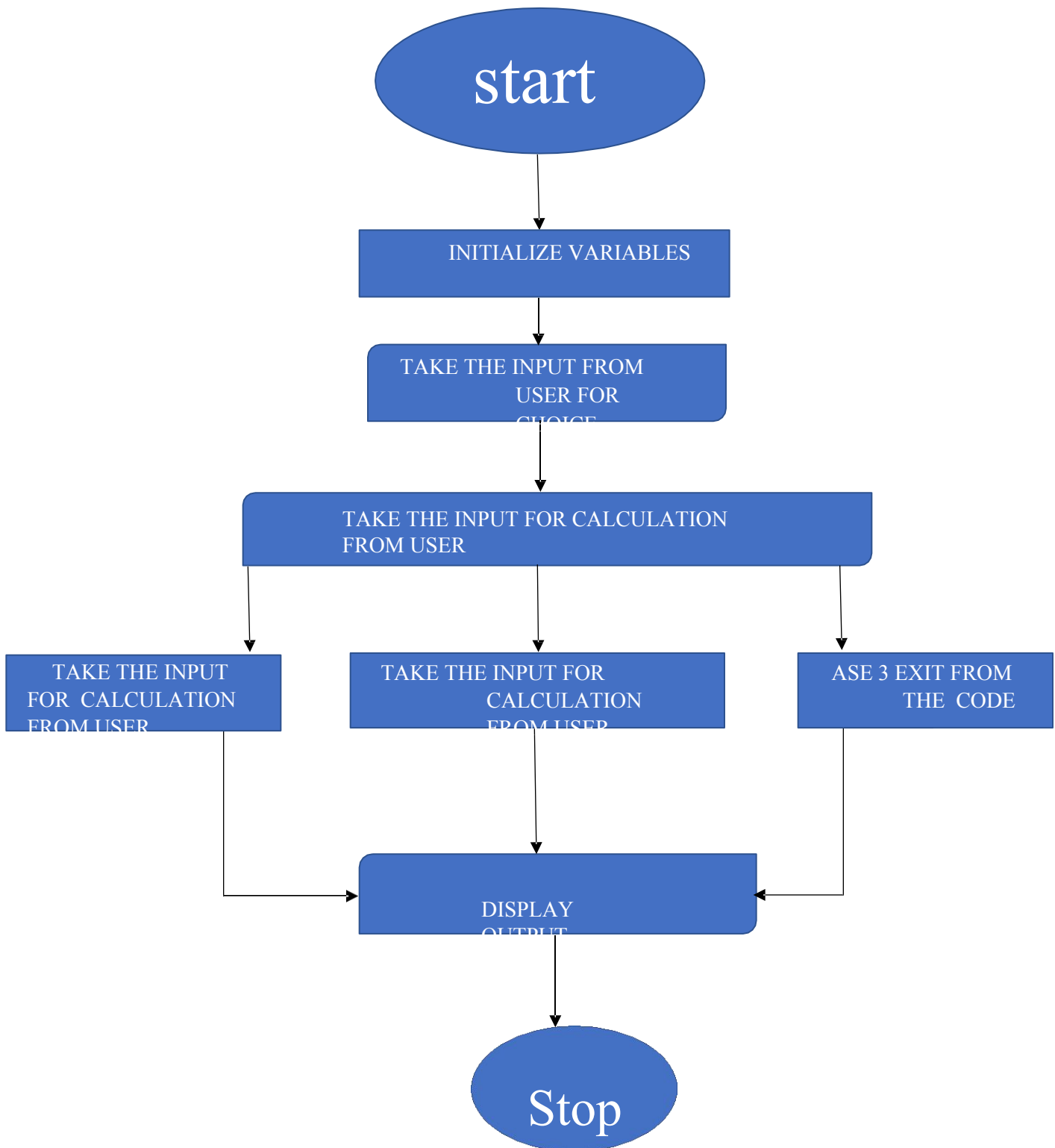
## **The following series of steps are being followed :**

while booking a railway ticket in this software- The first step is to provide the total number of passengers and submit all the necessary details of the passengers. The next step is to enter the source and destination. A list of available trains will appear. Among them, the user has to choose one. The ticket value will be evaluated. The system will ask to enter the seat choice by showing the seat matrix. At last, a receipt will be generated on the screen.

## **Approach:**

- The first step is to implement a structure for taking the details of the passengers, like name, gender, and age.
- Five functions are defined `void details(int)`, `void add_node(char, char, int)`, `int seat(int)`, `int cal(int, int, int)`, `void bill(int, int)` to work smoothly.
- There are three elements in the structure like two strings one for taking passenger name and gender and one integer for taking passenger age. Also, a structure pointer will be used which helps to link the next node of another passenger. It is similar to the linked list.
- Take the number of passengers as input and these details are sent to the `details()` function.
- Execute a for loop to take details of each passenger.
- The details inputted by the user will be sent to the `add_node()` function. In the `add_node` function, every detail will store in a node for each passenger.
- These nodes will link each other. This is based on the linked list concept. Take the input for source place, destination place and it will give some choice of trains available. Based on that user has to give a choice.
- Then call the `cal()` function. In `cal()` function, the user has to give a choice for sleeper or a.c. class. If the user chooses a.c. class another three options will open where the user has to give another choice based on that the system will add 18% GST on the amount and make total amount.
- Call the `seat()` function where a seat matrix will be given to the user and the user has to choose a seat same with the number of passengers.
- At last, call the `bill()` function where the total bill amount with all the necessary details will be displayed.

## FlowChart:



## Code

:

```
#include <math.h>
#include
<stdio.h>  int
main()
{
int
ta,tc,choice;
int r;
int c,C;
printf("#####
##  #####\n");
printf(" \t\t\t\tWELCOME\n");
printf(" \t\t\t\tTrain Reservation System\n");
printf(" \t\t\t\t(NOTE: These rates are approved by
IRCTC)\n");  printf(" \t\t\t\tSTATION TO STATION CHILDREN
ADULT\n");
printf(" \t\t\t\t(Per Person) (Per Person)\n");
printf(" \t\t\t\tChennai-Banglore(route 1) Rs.100
Rs.200\n");  printf(" \t\t\t\tChennai-Vizag (route 2) Rs.90
Rs.150\n");  printf(" \t\t\t\tChennai-Hyderabad(route 3)
Rs.120 Rs.300\n");  printf(" \t\t\t\tBanglore-Chennai(route
4) Rs.100 Rs.200\n");  printf(" \t\t\t\tVizag-Chennai (route
5) Rs.90 Rs.150\n");  printf("
\t\t\t\tHyderabad-Chennai(route 6) Rs.120 Rs.300\n");
printf("#####
##
#####\n\n");
for(int i=1;i<=10;i++)
{
printf("\nSelect Your
Choice\n");
printf("1.Adult+Children");
printf("\n2.Adult");
printf("\nyour choice :");
scanf("%d",&choice);
switch(choice)
{
case 1:
printf("Enter Route Number
");  scanf("%d",&r);
printf("\nHow many seats you want for adult : ");
scanf("%d",&ta);
printf("\nHow many seats for children
:");  scanf("%d",&tc);
if(r==1)
```

```

printf("\nTotal Cost
=%d",c+C); break;
}
else if(r==2)
{
c=tc*90;
C=ta*150
;
printf("The Bill To Be paid is");
printf("\nCost for %d
Children=RS.%d",tc,c); printf("\nCost for
%d Adult =Rs.%d",ta,C); printf("\nTotal
Cost =%d",c+C);
break;
}
else if(r==3)
{
c=tc*120
;
C=ta*300
;
printf("The Bill To Be paid is");
printf("\nCost for %d
Children=RS.%d",tc,c); printf("\nCost for
%d Adult =Rs.%d",ta,C); printf("\nTotal
Cost =%d",c+C);
break;
}
else if(r==4)
{
c=tc*100
;
C=ta*200
;
printf("The Bill To Be paid is");
printf("\nCost for %d
Children=RS.%d",tc,c);
printf("\nCost for %d Adult =Rs.%d",ta,C);
printf("\nTotal Cost
=%d",c+C); break;
}
else if(r==5)
{
c=tc*90;
C=ta*150
;
printf("The Bill To Be paid is");
printf("\nCost for %d
Children=RS.%d",tc,c); printf("\nCost for
%d Adult =Rs.%d",ta,C); printf("\nTotal
Cost =%d",c+C); break;
}

```

```

}
case 2:
printf("Enter Route Number
"); scanf("%d",&r);
printf("\nHow many seats you want for adult :
");
scanf("%d",&ta)
; if(r==1)
{
C=ta*200;
printf("The Bill To Be paid is");
printf("\nCost for %d Adult
=Rs.%d",ta,C); printf("\nTotal Cost
=Rs.%d",C);
break;
}
else if(r==2)
{
C=ta*150;
printf("The Bill To Be paid is");
printf("\nCost for %d Adult
=Rs.%d",ta,C); printf("\nTotal Cost
=%d",C);
break;
}
else if(r==3)
{
c=tc*120
;
C=ta*500
;
printf("The Bill To Be paid is");
printf("\nCost for %d Adult
=Rs.%d",ta,C); printf("\nTotal Cost
=%d",C);
break;
}
if(r==4)
{
C=ta*200;
printf("The Bill To Be paid is");
printf("\nCost for %d Adult
=Rs.%d",ta,C); printf("\nTotal Cost
=Rs.%d",C);
break;
}
if(r==5)
{
C=ta*150;

```

```

printf("\nTotal Cost
=Rs.%d",C);  break;
}
return 0;}
}
}

```

## OutPut

:

```

#####
#####
                                WELCOME
                                Train reservation System
                                (NOTE: These rates are approved by IRCTC)
                                STATION TO STATION CHILDREN ADULT
                                (Per Person) (Per Person)
                                Chennai-Bangalore(route 1) Rs.100 Rs.200
                                Chennai-Vizag (route 2) Rs.90 Rs.150
                                Chennai-Hydrabad(route 3) Rs.120 Rs.300
                                Banglore-Chennai(route 4) Rs.100 Rs.200
                                Vizag-Chennai(route 5) Rs.90 Rs 150
                                Hyderabad-Chennai(route 6) Rs.120 Rs.300
#####
#####

```

Select Your Choice

1.Adult+Children

2.Adult

Your Choice :

2

Enter Route Number 4

How many seats you want for adult : 4

The Bill To Be paid

Cost for 4 Adult =Rs.800

Total Cost =Rs.800



**Conclusion:**

Railway ticket booking system is implemented by C programming. It is as same as one can see while we are going for online ticket booking