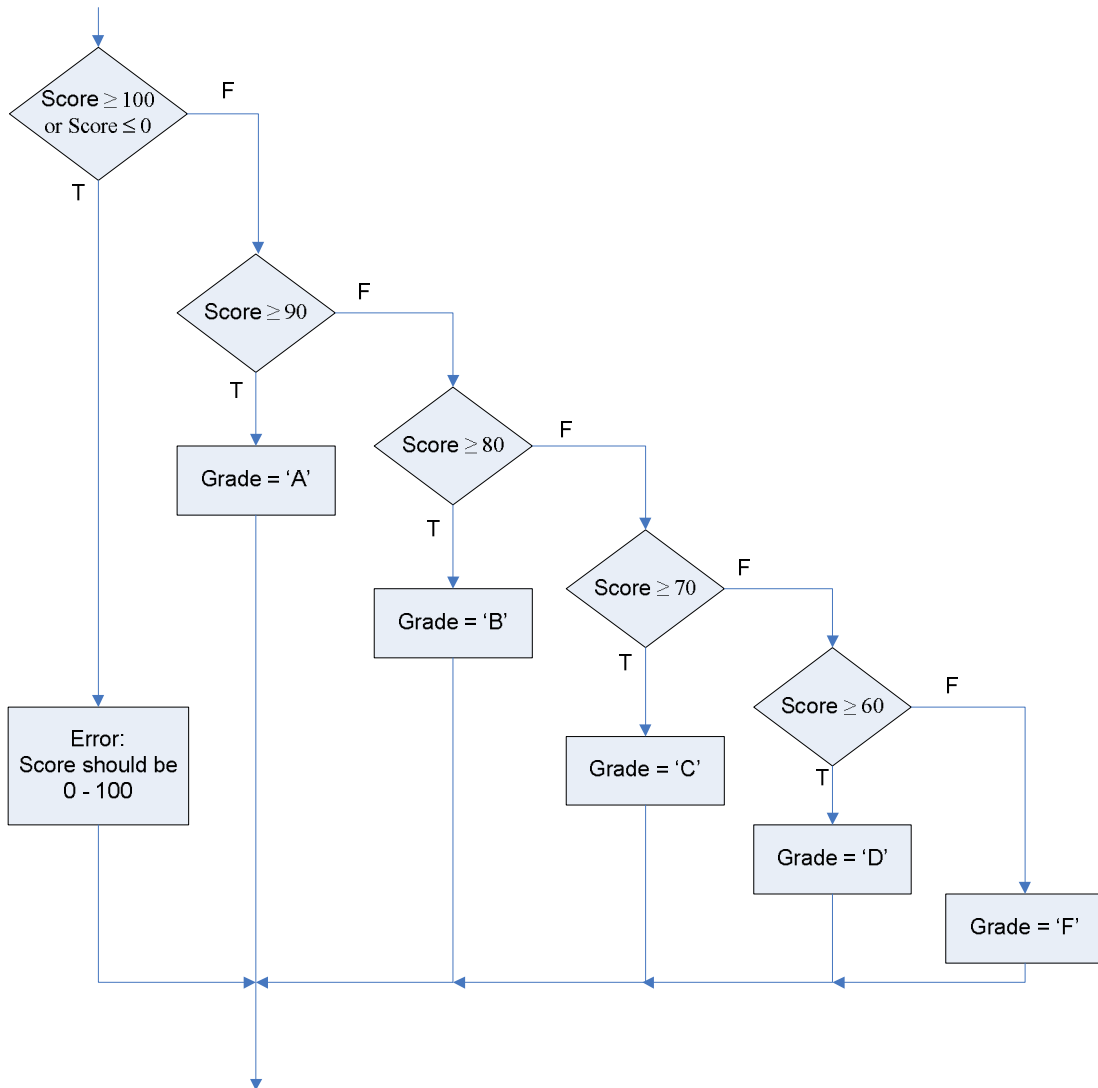


b. Necessary Logic: Can you develop a flow chart for this program's logic?



5. Programming:
(see next page)

```

function Grade = Curve(score)
% function Grade=Curve(score)
% Determines the letter grade given a % score based on a 10%/grade
% Based on Palm problem 4-17
% Input: score = students score (%)
% output: Grade = letter grade (A, B, C, D or F)
% S. Scott Moor      March 2008

% if structure is used to select a grade
% initial if performs error trapping
if score >100 || score < 0
    disp('ERROR: Input Score must be between 0 and 100')
    Grade = NaN;
elseif score >= 90
    Grade = 'A';
elseif score >= 80
    Grade = 'B';
elseif score >= 70
    Grade = 'C';
elseif score >=60
    Grade = 'D';
else
    Grade = 'F';
end

```

6. Validation:

```

>> Curve(89)
ans =
    B
>> Curve(90)
ans =
    A
>> Curve(76)
ans =
    C
>> Curve(66)
ans =
    D
>> Curve(55)
ans =
    F
>> Curve(105)
ERROR: Input Score must be between 0 and 100
ans =
    NaN
>> Curve(-3)
ERROR: Input Score must be between 0 and 100
ans =
    NaN

```

Here I used the original test cases plus two more to test the error trapping. These cases cover all branches of the conditional statements.

All work as expected.