=== Run information ===

Scheme: weka.classifiers.trees.J48 -C 0.25 -M 2

Relation: PorPassFailTraining

Instances: 519

Attributes: 25

sex

age

address

famsize

Pstatus

Medu

Fedu

traveltime

studytime

failures

schoolsup

famsup

paid

activities

higher

internet

romantic

famrel

freetime

goout

Dalc

Walc

health

absences

G

Test mode: 10-fold cross-validation

=== Classifier model (full training set) ===

J48 pruned tree

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failures <= 0

| higher = yes: Pass (409.0/46.0)

| higher = no

| | Fedu = college: Fail (2.0)

| | Fedu = high school: Pass (3.0)

| | Fedu = junior high

| | | sex = F: Fail (5.0)

| | | sex = M

| | | | goout = low: Pass (0.0)

| | | | goout = high: Fail (4.0/1.0)

| | | | goout = very high: Pass (2.0)

| | | | goout = average: Pass (1.0)

| | | | goout = very low: Pass (0.0)

| | Fedu = elementary

| | | romantic = no: Fail (2.0)

| | | romantic = yes: Pass (7.0/1.0)

| | Fedu = none: Pass (0.0)

failures > 0

| failures <= 2

| | age <= 19

| | | schoolsup = no

| | | | health = very good

| | | | | Dalc = very low

| | | | | | activities = yes: Pass (4.0)

| | | | | | activities = no

| | | | | | | internet = yes: Fail (4.0)

| | | | | | | internet = no: Pass (5.0/1.0)

| | | | | Dalc = low: Fail (7.0/1.0)

| | | | | Dalc = very high: Pass (0.0)

| | | | | Dalc = average

| | | | | | internet = yes: Fail (5.0/1.0)

| | | | | | internet = no: Pass (2.0)

| | | | | Dalc = high: Pass (3.0)

| | | | health = bad

| | | | | freetime = average: Fail (2.0)

| | | | | freetime = high: Fail (5.0/1.0)

| | | | | freetime = very low: Pass (1.0)

| | | | | freetime = very high: Fail (0.0)

| | | | | freetime = low: Pass (2.0)

| | | | health = good: Fail (6.0)

| | | | health = average

| | | | | age <= 16: Pass (2.0)

| | | | | age > 16: Fail (7.0/1.0)

| | | | health = very bad: Fail (6.0)

| | | schoolsup = yes

| | | | address = U: Pass (4.0)

| | | | address = R: Fail (3.0/1.0)

| | age > 19: Pass (5.0)

| failures > 2: Fail (11.0/1.0)

Number of Leaves : 33

Size of the tree : 50

Time taken to build model: 0.05 seconds

=== Stratified cross-validation ===

=== Summary ===

Correctly Classified Instances 414 79.7688 %

Incorrectly Classified Instances 105 20.2312 %

Kappa statistic 0.2823

Mean absolute error 0.2624

Root mean squared error 0.4083

Relative absolute error 78.3822 %

Root relative squared error 99.9164 %

Total Number of Instances 519

=== Detailed Accuracy By Class ===

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class

0.929 0.691 0.833 0.929 0.879 0.298 0.633 0.819 Pass

0.309 0.071 0.540 0.309 0.393 0.298 0.633 0.426 Fail

Weighted Avg. 0.798 0.560 0.771 0.798 0.776 0.298 0.633 0.736

=== Confusion Matrix ===

a b <-- classified as

380 29 | a = Pass

76 34 | b = Fail