Consider the following codes

**data** student;

input Student\_id $13. Gender $ M\_10 M\_12 M\_15 CAT\_Score START\_SAL ;

cards;

17FMUHH010001 M 85 83 69 85 12.7

17FMUHH010002 M 85 93 79 . 10.9

17FMUHH010003 M 81 82 85 91 11.1

17FMUHH010004 F . 89 89 75 07.8

17FMUHH010005 M 98 94 85 89 16.5

17FMUHH010006 M 86 81 77 95 15.1

17FMUHH010007 M 85 83 79 85 12.3

17FMUHH010008 M 80 . 75 90 09.4

17FMUHH010009 F 89 88 79 91 17.6

17FMUHH010010 M 86 83 67 95 19.2

17FMUHH010011 M 81 83 79 85 10.4

17FMUHH010012 M 75 93 69 88 11.9

17FMUHH010013 F 85 . 79 79 11.3

17FMUHH010014 F 79 83 69 85 12.5

17FMUHH010015 M 85 83 70 87 13.5

17FMUHH010016 M 81 87 . 85 18.4

17FMUHH010017 M 85 83 69 85 10.9

17FMUHH010018 F 85 83 69 85 14.9

;

**run**;

**DATA** student; Set student;

LABEL M\_10='Marks in 10th Std exam' M\_12='Marks in 12th Std exam' M\_15='Marks in Graduation'

CAT\_Score = 'CAT SCORE (percentile)' START\_SAL='Starting Salary per Year (in Lakhs)';

**run**;

Proc print data=student; run;

1.A.Run this code and describe the structure in not more than 3 sentences.

1.B.How would you determine whether CAT\_Score and Starting Salary are associated? Write the code. [2+3=5]

2. Write a flexible code which count and displays the number and the percent of complete cases (no missing values) for the numerical variables in the dataset created in question 1.

Hint ( You may either Use a DATA \_NULL\_ step or you may use proc MI )

3. Write a macro (%select) which will sort and print the students data, using two parameters to create two macro variables named &GENDER and &SORTVAR such that if one invokes it as %select (category=M, Sortvar= start\_Sal) the following output is generated:

| **Obs** | **Student\_id** | **Gender** | **M\_10** | **M\_12** | **M\_15** | **CAT\_Score** | **START\_SAL** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | 17FMUHH010008 | M | 80 | . | 75 | 90 | 9.4 |
| **2** | 17FMUHH010011 | M | 81 | 83 | 79 | 85 | 10.4 |
| **3** | 17FMUHH010002 | M | 85 | 93 | 79 | . | 10.9 |
| **4** | 17FMUHH010017 | M | 85 | 83 | 69 | 85 | 10.9 |
| **5** | 17FMUHH010003 | M | 81 | 82 | 85 | 91 | 11.1 |
| **6** | 17FMUHH010012 | M | 75 | 93 | 69 | 88 | 11.9 |
| **7** | 17FMUHH010007 | M | 85 | 83 | 79 | 85 | 12.3 |
| **8** | 17FMUHH010001 | M | 85 | 83 | 69 | 85 | 12.7 |
| **9** | 17FMUHH010015 | M | 85 | 83 | 70 | 87 | 13.5 |
| **10** | 17FMUHH010006 | M | 86 | 81 | 77 | 95 | 15.1 |
| **11** | 17FMUHH010005 | M | 98 | 94 | 85 | 89 | 16.5 |
| **12** | 17FMUHH010016 | M | 81 | 87 | . | 85 | 18.4 |
| **13** | 17FMUHH010010 | M | 86 | 83 | 67 | 95 | 19.2 |