```
/**SAS codes Solution Q1***/

 Proc format;

 VALUE age_grpF
             1 = "18 to 24 years old"
             2 = "25 to 44 years old"
             3 = "45 to 64 years old"
             4 = "65 years old and over"
           . = "Missing";
 VALUE genderF
             1 = "Male"
             2 = "Female"
             . = "Missing";
 VALUE areaF
             0 = "Rural area"
             1 = "Urban"
             2 = "Suburb"
             . = "Missing";
 VALUE llkefoodF
             1 = "Excellent"
             2 = "Very good"
             3 = "Good"
             4 = "Fair"
             5 = "Poor"
             . = "Missing";
 VALUE $orderF
             '01' = "on site"
             '02' = "delivery"
             '.' = "Missing";
 VALUE satisF
             1 = "Strongly agree"
             2 = "Agree"
             3 = "Disagree"
             4 = "Strongly disagree"
             . = "Missing";
 VALUE educF
             1 = "No schooling"
             2 = "Completed elementary"
             3 = "Completed secondary"
             4 = "Completed college"
             5 = "Completed university"
             6 = "Other education or training"
              . = "Missing";
 VALUE jtypeF
             1 = "Employed full-time"
```

```
                2 = "Employed part-time"
                3 = "Unemployed and looking for work"
                4 = "Unemployed and looking for work"
                . = "Missing";
 VALUE incomeF
                10 = "$50,000 or more but less than $60,000"
                11 = "$60,000 or more but less than $70,000"
                12 = "$70,000 or more but less than $80,000"
                13 = "$80,000 or more but less than $90,000"
                14 = "$90,000 or more but less than $100,000"
                15 = "$100,000 or more but less than $150,000"
                16 = "$150,000 and over"
                . = "Missing";

Run;

data Survey_pizza_2;
  set Survey_pizza_1;
  format age_group age_grpF. downtown_area areaF. likefood llkefoodF.
        Howorder $orderF.  ser_satisfaction satisF. service_quality llkefoodF.
        highest_education  educF.  job_type jtypeF.   yearly_income  incomeF. ;
run;


 /**SAS codes Solution Q2***/
   data Stock_price_new;
     set Stock_price;
     open=input(price_open, $8.);
             close=input(price_close, 8.2);
             high=input(price_high, 8.2);
             low=input(price_low, 8.2);
             keep exchange symbol open high close low;
   run;

/*COMMENTS:

You can apply input function in data step to create a numeric variable by reading a
character column using numeric informat. You can use this method to get a new numeric
variable (with the same value of the existing character variable) but please note you
can never convert the data type of a SAS variable into other type
*/




/**SAS codes Solution Q3***/
```

```
 proc format;
   VALUE price_bucket
      0 -< 19.99 = '0_20'
      20 -< 49.99 = '20-50'
               50 -< 99.99 = '50-100'
      100 - HIGH = '100plus'
      ;
  run;

 data Stock_price_new;
  set Stock_price_new;
  format open price_bucket.;
  open_bucket=put(open, price_bucket.);
 run;

/*COMMENTS:

You should first define a format ‘open_bucket’ to classify continuous values into
categorical values and apply the format into the column 'open', which will be displayed
according to the rule defined in the format ‘open_bucket’.

Then you can apply put function to create a new character field 'open_bucket' by
assigning the format ‘open_bucket’ to the column 'open'. Note, the data type of 'open'
cannot be changed or converted but you can create a new column.
*/
```