Experiment No:4

Aim:

To manipulate data in SAS Studio using functions.

Implementation:

```
data math_function;
    n1=17;n2=92;n3=117;n4=14;n5=22;
    maximum=max(n1,n2,n3,n4,n5);
    minimum=min(n1,n2,n3,n4,n5);
    random_value=ranuni(0);
    median=median(n1,n2,n3,n4,n5);
    sum=sum(n1,n2,n3,n4,n5);
    square_root_of_sum=sqrt(sum(n1,n2,n3,n4,n5));
run;
proc print data=Math_function;
    title 'Math Functions'
run;
```

Math Functions run

Obs	n1	n2	n3	n4	n5	maximum	minimum	random_value	median	sum	square_root_of_sum
1	17	92	117	14	22	117	14	0.15952	22	262	16.1864

```
DATA DATE_FUNCTIONS;
    INPUT @1 date1 date9. @11 date2 date9.;
    FORMAT date1 date9. date2 date9.;
    YEAR_DIFFERENCE = INTCK('YEAR',date1,date2);
    MONTH_DIFFERENCE = INTCK('MONTH',date1,date2);
    WEEKDAY = WEEKDAY(date1);
    TODAY = TODAY();
    TIME = time();
    DATALINES;

03MAR1932 02OCT2001
12JUL2012 16AUG2022
;
PROC PRINT DATA = DATE_FUNCTIONS;
TITLE 'DATE FUNCTIONS';
RUN;
```

DATE FUNCTIONS

Obs	date1	date2	YEAR_DIFFERENCE	MONTH_DIFFERENCE	WEEKDAY	TODAY	TIME
1	.	.	.	.	.	23413	34297.73
2	03MAR1932	02OCT2001	69	835	5	23413	34297.73
3	12JUL2012	16AUG2022	10	121	5	23413	34297.73

```
DATA CHARACTER_FUNCTIONS;
    ORIGNAL = 'VAreNya';
    LOWERCASE = LOWCASE('VAreNya');
    UPPERCASE = UPCASE('VAreNya');
    REVERSE = REVERSE('VAreNya');
    AFTER_SPLIT_1ST_WORD = SCAN('VAreNya',1);
    AFTER_SPLIT_2ND_WORD = SCAN('VAreNya',2);
RUN;
PROC PRINT DATA = CHARACTER_FUNCTIONS;
    TITLE 'CHARACTER FUNCTIONS';
RUN;
```

CHARACTER FUNCTIONS

Obs	ORIGNAL	LOWERCASE	UPPERCASE	REVERSE	AFTER_SPLIT_1ST_WORD	AFTER_SPLIT_2ND_WORD
1	VAreNya	varenya	VARENYA	ayNerAV	VAreNya	

```
DATA NUMBER_TRUNCATE_FUNCTIONS;
    ORIGNAL = 3.1415;
    CEIL = CEIL(3.1415);
    FLOOR = FLOOR(3.1415);
    INT = INT(3.1415);
    ROUND = ROUND(3.1415);
RUN;
PROC PRINT DATA = NUMBER_TRUNCATE_FUNCTIONS;
    TITLE 'NUMBER TRUNCATE FUNCTIONS';
RUN;
```

NUMBER TRUNCATE FUNCTIONS

Obs	ORIGNAL	CEIL	FLOOR	INT	ROUND
1	3.1415	4	3	3	3

Conclusion:

In this experiment, we learnt how to manipulate data in SAS Studio using various built-in functionalities of the SAS framework.