```
1.1 Output:
[1]  2  5  9 14 20


1.2 Output:
[1] 10
[1] 9
[1] 8
[1] 7
[1] 6
[1] 5
[1] 4
[1] 3
[1] 2
[1] 1
 [1] 10  9  8  7  6  5  4  3  2  1
>
```

```
2.1 Output:
Enter the name :name
Enter the age:20
Name: name
Age: 20
R version: R version 4.3.2 (2023-10-31 ucrt)


2.2 Output:
Objects in memory:
[1] "age"             "cumulative_sum" "i"              "name"
[5] "numbers"         "rev_numbers"    "x"              "y"
[9] "z"

Details of objects:


2.3 Output:
Sequence from 20 to 50: 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
37 38 39 40 41 42 43 44 45 46 47 48 49 50
Mean of numbers from 20 to 60:  40
Sum of numbers from 51 to 91:  2911
> 
```
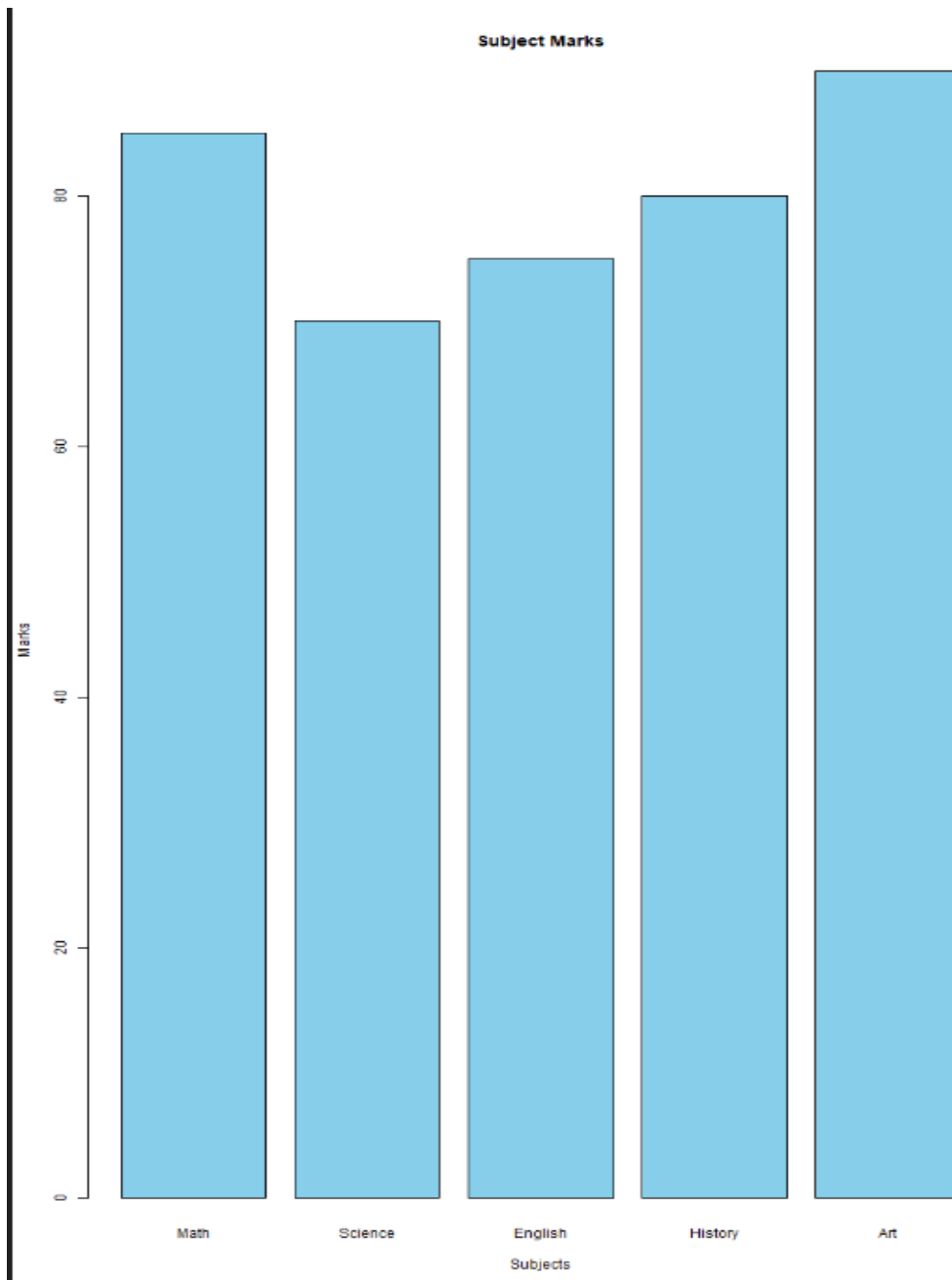
3.1

Subject Marks

```
4.1 Output:
Unique elements of the given string: h e l o  w r d
Unique elements of the given vector: 1 2 3 4 5 6


4.2 Output:
     a b c
[1,] 1 4 7
[2,] 2 5 8
[3,] 3 6 9


4.3 Output:
     [,1] [,2] [,3]
[1,]    1    2    3
[2,]    4    5    6
[3,]    7    8    9


4.4 Output:
[1] 10 20 30


4.5 Output:
[1]   4 10 18


4.6 Output:
Sum of the vector: 13
Mean of the vector: 3.25
Product of the vector: 48
> 
```

```
5.1 Output:
5x4 Matrix filled by rows:
      Col 1 Col 2 Col 3 Col 4
Row 1     1     2     3     4
Row 2     5     6     7     8
Row 3     9    10    11    12
Row 4    13    14    15    16
Row 5    17    18    19    20

3x3 Matrix filled by columns:
      Col X Col Y Col Z
Row A    21    24    27
Row B    22    25    28
Row C    23    26    29

2x2 Matrix filled by columns:
       Col A Col B
Row I     30    31
Row II    32    33


5.2 Output:
     [,1] [,2] [,3]
[1,]   52   62   72
[2,]   54   64   74
[3,]   56   66   76
[4,]   58   68   78
[5,]   60   70   80


5.3 Output:
Row and column index of maximum value: 3 3
Row and column index of minimum value: 1 1
```

```
6.1 Output:
     [,1] [,2] [,3] [,4] [,5]
[1,]    1    2    3    4    5
[2,]    6    7    8    9   10
[3,]   11   12   13   14   15


6.2 Output:
, , 1

     [,1] [,2] [,3]
[1,]    1    4    7
[2,]    2    5    8
[3,]    3    6    9

, , 2

     [,1] [,2] [,3]
[1,]   10    1    4
[2,]   11    2    5
[3,]   12    3    6

> []
```

```
7.1 Output:
data frame with 0 columns and 0 rows


7.2 Output:
  Column1 Column2 Column3 Column4
1       A       1    TRUE   3.140
2       B       2   FALSE   2.718
3       C       3    TRUE   1.618


7.3 Output:
Duplicated elements:
  Column1 Column2
4       B       2
6       A       1

Unique rows:
  Column1 Column2
1       A       1
2       B       2
3       C       3
5       D       4


7.4 Output:
   Name Age Score
1  John  25    85
2 Alice  30    92
3   Bob  28    88
> 
```

```
8.1 Output:
[1] "First element:"
[1] 1 2 3
[1] "Second element:"
     [,1] [,2] [,3]
[1,]    1    3    5
[2,]    2    4    6


8.2 Output:
$MyVector
[1] 1 2 3

$MyNestedList
$MyNestedList$a
[1] 10

$MyNestedList$b
[1] 20




8.3 Output:
[1] 20
```

```
8.4 Output:
$a
[1] 1

$b
[1] 2

$c
[1] 3

$x
[1] "apple"

$y
[1] "banana"

$z
[1] "orange"



8.5 Output:
 [1] "E" "F" "G" "H" "I" "J" "K" "L" "M" "N" "O" "P" "Q" "R" "S"
```

```
8.6 Output:
$a
[1] 1

$b
[1] 2

$c
[1] 3

> []
```

```
9.1 Output:
[1] "A" "B" "C"


9.2 Output:
 [1] January   February  March     April     May       June      July
 [8] August    September October   November  December
12 Levels: January < February < March < April < May < June < ... < December


9.3 Output:
[1] A B C A D E F D
Levels: A B C D E F
> []
```