Q1

The program allows the user to enter three reals from the keyboard.
Print to the screen the average of three numbers with two decimal places.
Below is an example how the program will run:
Enter three numbers with the value: 2.5; 3.5; and 5.0.

```
2.5
3.5
5.0

OUTPUT:
5.50
```

Q2

Your program should allow users to enter an integer number 'n', then it should display the sum of the first and the last digits forming 'n'.
Below is an example how the program will run:

```
38295

OUTPUT:
8
```

Q3

Your program allows users to enter 6 float numbers. The system displays the entered numbers in descending order. Each number has only two decimals places.
Below is an example how the program will run:

```
6.3
5.2
12.5
3.6
10.2
4.8

OUTPUT:
```

```
12.50 10.20 6.30 5.20 4.80 3.60
```

Q4

Your program allows users to enter three integers ‘a’, ‘b’ and ‘c’ from the keyboard, with ‘a’ < ‘b’. Where 'c’ is the column number of the table of numbers to be printed. Print numbers from ‘a’ to ‘b’ in the following format.
Below is an example how the program will run:
when ‘a’ = 11; ‘b’ = 55; ‘c’ = 8

```
19
45
8

OUTPUT:
19 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
```

Q5

Your program allows users to enter array of 'n' integer, where 'n is entered by the user (n < 10). The program prints the squared of each entered even number following the order that they were entered. There is a newline character “\n” between any two printed numbers.
Below is an example how the program will run:
when ‘n’ = 6; array = {3, 2, 5, 4, 10, 8}

```
6
3 2 5 4 10 8

OUTPUT:
4
16
100
64
```

Q6

Your program should allow users to enter a string ‘s’ with maximum 100 characters, then it should display the number of characters in the first three words of ‘s’. Words are separated from each other by a space character.
Below is an example how the program will run:
s=hi hello how are you

```
hi hello how are you

OUTPUT:
10
```

Q7

The program allows the user to enter a list of ‘n’ student names from the keyboard, each student name separated by a space. Continue, enter a search character. The system finds and prints the names of students whose letters start with the search character.
Below is an example how the program will run:
Enter: n = 5, names = {"Trung", “Thao”, “Binh", “thang", “Toan"}, search Key = ‘T’

```
5
Trung
Thao
Binh
thang
Toan
T

OUTPUT:
Trung
Thao
thang
Toan
```

Q8

Your program allows users to enter array of n integers, where n is entered by the user (n < 10). The program removes all duplicated odd numbers (keeps only the first occurrence of the numbers). Then, the program prints the resultant list of numbers (after removing the duplicated ones).

Between any two numbers, there is a newline character.
Below is an example how the program will run:
Enter: n = 6, array = {8, 1, 5, 5, 2, 2}

```
6
8 1 5 5  2 2

OUTPUT:
8
1
5
2
```

Q9

The program allows the user to enter the values of the elements of the square matrix as integers with the same number of rows and columns and input from the keyboard. Print the product of the elements on the main diagonal of the matrix.
Below is an example how the program will run:
rows=3;
array =
{ 3 2 5
  9 6 8
  7 4 1}

```
3
3    2    5
9    6    8
7    4    1

OUTPUT:
18
```

Q10

Your program should allow users to enter an integer number: ‘a’. The program should check if ‘a’ is a power of 2 or not. If it is, the program prints the number ‘n’ that makes the number ‘a’ the power of 2; else, the program prints: “a is not a power of 2” where ‘a’ is the entered number from user.
Below is an example how the program will run:

enter a=32 or a = 35

32 OUTPUT: 5	35 OUTPUT: 35 is not a power of 2