A Parrot

Write a program that prints whatever the user has entered.

Example output:

```
Enter anything: anything
anything
```

Extra assignment: The program keeps repeating words until the user enters “exit” then it stops.

Make it double

Write a program that takes a number as input and prints out the number times two.

Example output:

```
Enter a number to double: 5
10
```

How long is it

Write a program that counts how many letters are there in an input string. Beware of counting “Punctuation Characters” like space, comma, period, question and exclamation marks.

Example Output

```
Enter a string: Hello there!
10
```

Extra assignment: The program also counts how many words are written.

Consonants and Vowels

Write a program that counts how many vowels (a, e, i, o, u) and consonants are there in a word.

`Output: <input> has <numVowels> vowels and <numConst> constants.`

Example output:

```
Enter a word: Beautiful
Beautiful has 5 vowels and 4 constants.
```

Extra assignment: The program also can count consonants and vowels in a string. Beware of counting “Punctuation Characters” like space, comma, period, question and exclamation marks.

A welcome message

Write a program that asks the user for his name, country of birth, and field of study and then prints a welcome message:

```
Output:
Hello <name>, I hope you had a nice travel from <land>. I am
pretty sure that learning programming is useful in <field>.
```

Example output:

```
What is your name: John Doe
Where are you from: Mars
What do you study: Medicine

Hello John Doe, I hope you had a nice travel from Mars. I am
pretty sure that learning programming is useful in Medicine.
```

Odd or Even

Write a program that asks the user to enter a number and then prints out if that number is odd or even:

```
Output:
The Number <input> is <result>.
```

Example output:

```
Enter a number: 25
The number 25 is odd.
```

Extra assignment: This program can tell if the input is divisible by 2 or not. Expand the program to tell if a number is divisible by 3 or 4 as well.

Simple Area Calculator

Write a program that calculates the area of a rectangle triangle or a circle. Ask the user for the shape and based on it ask for the needed values to perform the operation. `height` and `base` for `triangle`, `length` and `width` for `rectangle` and `radius` for a `circle`.

```
Output:
Area of this <shape> is <area>.
```

Note: you can use the math library for the value of pi.
Example output:

```
Enter the shape's name: triangle
Enter the height value: 6
Enter the base value: 9
Area of this triangle is 27.
```

Temperature converter

Write a program that takes as an input a value with a unit (C for Celsius and F for Fahrenheit) and converts it to the other measurement unit.

```
Output:
<inputTemp> is equal to <resultTemp>
```

Note that:
- $T(°C) = (T(°F) - 32) / 1.8$
- $T(°F) = T(°C) \times 1.8 + 32$

Example output:

```
Enter a temperature value: 32F
32F is equal to 0C
```

How many Years in this many Days

Write a program that converts a number of days into years weeks and days.

```
Output:
That is <years> years, <weeks> weeks and <days> days.
```

Example output:

```
Enter the number of days: 382
That is 1 years, 2 weeks and 3 days
```

Extra assignment: Change the program and make it consider a leap year for every 4 years.

Squares Table

Write a program that helps students to memorize the square of numbers.

- Ask the user for a square of a random number.
- Check the input if it is correct or not and print a message with the result.

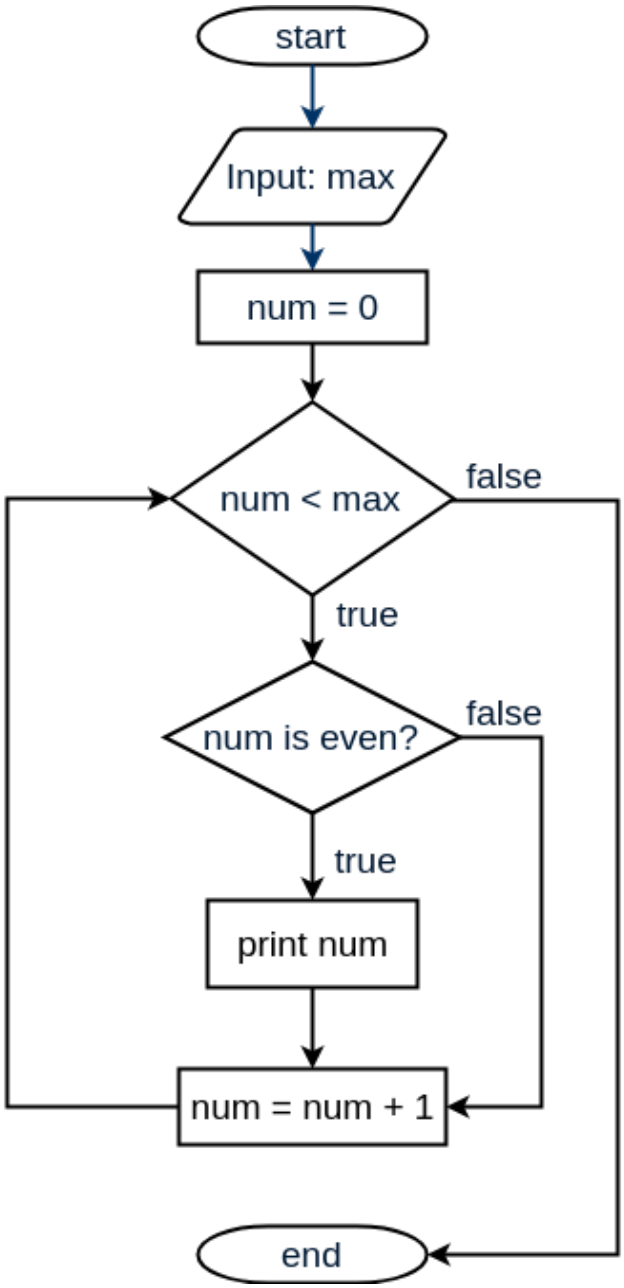
Example output:

```
What is the square of 2: 6
Not correct, the square of 2 is 4.
What is the square of 5: 25
Correct! Keep it up.
```

Extra assignment: The program should randomly asks about either a square or square root to enhance the learning process. For example it asks about the square root of 16 and expects 4 as input.

Flow chart to code

Flow-charting has been used for a long time when designing algorithms and programs. Write a function according to the flowchart shown below.



The program should print the even numbers between `0` and `max`.
Test that program with some input.
Example output:

```
Enter the a number: 9
0
2
4
6
8
```

Parents helping tool when buying games:

Write a program that helps parents to choose a game for their kids and understand what the age labels of games mean, based on PEGI rating.

-The user enters the age of the child
-The program prints what games fit this age based only on PEGI age labels.
-The program also prints info about the type of content that might be expected in games with the highest fit age label.

Note: Age labels and all info about them can be found here. You can ignore "The PEGI content descriptors".

```
Output:
According to PEGI, A player of the age <age> can play games with
labels <labels>.
Games labeled with <highestLabel> contain <info>.
```

```
Enter an age for a game advice: 14

According to PEGI, A player of the age 14 can play games with
labels 12, 7 and 3.
Games labeled with 12 contain violence towards fictional
characters and mild language.
```

Talking clock

Write a program that takes a digital time as an input and prints out a time in words.
Note: consider only hh:00 or hh:30 minutes.

```
Enter the time: 01:30 pm
It is half past one in the afternoon
```

Extra assignment: The program can detect and handle 24 hours format like "13:30".

Fibonacci sequence

write a program that prints the Fibonacci sequence from F(1) to F(n), while n is the user input value.

```
Enter a number: 6
1 1 2 3 5 8
```

Reversed Factorial

Write a program that finds the integer based on the result of its factorial
Example output:

```
Output:
The number <input> is result of <num>!
```

```
Enter a factorial of a number: 40320
The number 40320 is the result of 8!
```

Extra assignment: Let the program report if the input is not a factorial of an integer. Then ask for a new input.

First and Last

Write a program that prints the first and the last weekday in your country.
Create a tuple that contains the names of weekdays starting from the first day of the week in your country.
Print the full tuple and a string that includes the first and last day of the week.

```
Output:
The first weekday in my country is <first> and the last is <last>.
```

Example output:

```
('Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday',
'Sunday', 'Monday')
The first weekday in my country is Tuesday and the last is Monday.
```

The smallest and the biggest

Write a program that finds the smallest and the biggest number in a list.
Create a list of at least 6 random arranged numbers using `random` library function `randint(start, end)`.
Print the list and then print your results

```
Output:

The smallest number is <smallest>
The biggest number is <largest>
```

Example output:

```
[8, 4, 7, 6, 9, 1]
The smallest number is 1
The biggest number is 9
```

Extra assignment: The program also prints the range.

The Average

Write a program that calculates the average of a list of numbers.
Create a random list of at least 6 random arranged numbers using `random` library function `randint(start, end).`
print the list out and then print out the average.

`Output:`

`The average is <avg>`

Example output:

```
[7, 2, 7, 9, 8, 3]
The average is 6
```

Extra: The program also prints the mode of the list. In our case its 7.

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