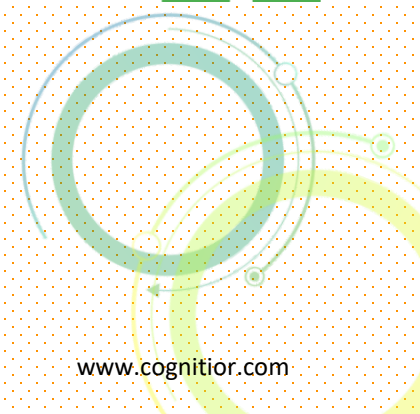
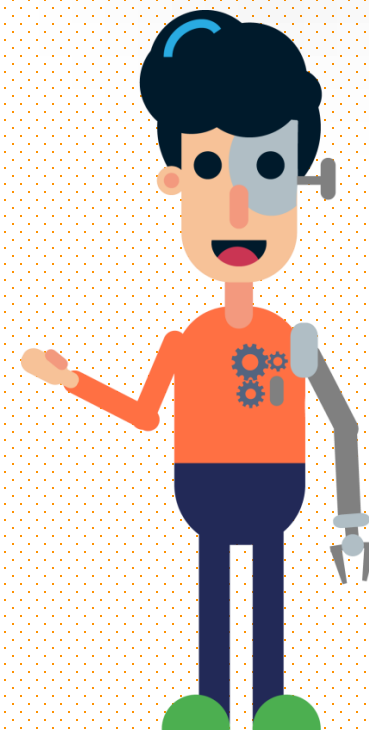


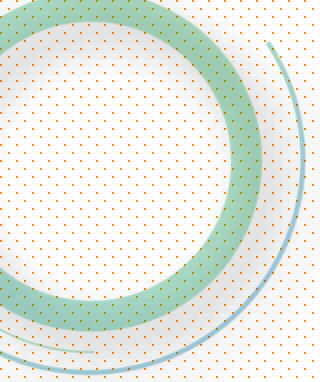
Problem 1

Create a program that asks the students to enter their name and their age. Print out a message addressed to them that tells them the year that they will turn 45 years old.

STEPS:

- Getting User Input
To get user input in python, the command use is `input()`. One thing Remember that the result we get from user is a string, even if we enter a number.
- Approaching Ways
First make the string into number with function `int()`.
here is the best way:
`age = int(input("Enter the age:"))`



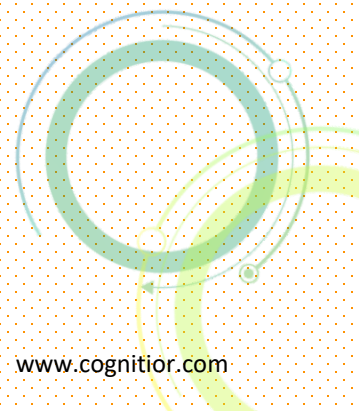
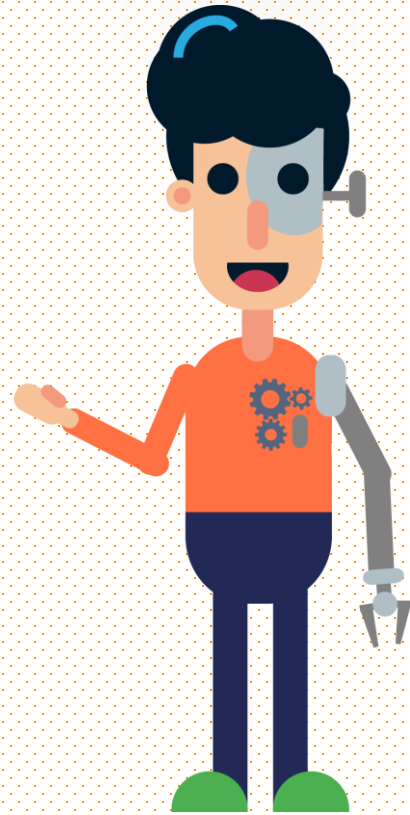


Problem 2

In a college, A Math teacher plays a number game , in this game he asks the students, whether the number is even or odd. Also he asks them to print out a message to the user.

STEPS:

- Modulus operator
When we operate division operation, we are looking for remainder not answer, this is done by “modulus operator”.
- Conditional statements
for getting desired results, check some condition is satisfied.
here we use “IF Statement”

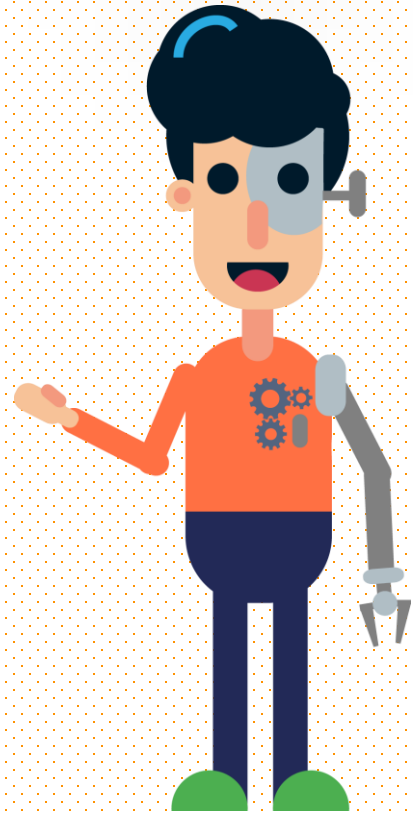


Problem 3

In a school for wrestling competition , coach asks the students of their weight. and he wants only those students whose weight is less than 50 kg.
Write a Python Program that identifies students with less than 50 kg weight.

STEPS:

- Lists :
lists in python is the grouping of strings, integers, other lists, objects and whatever you have in ordered way.
Exp-
your lists =[3,7 , “subham”, [5,8,”vimal”]]
- Conditional statement :
Conditional is follow the logical operation, let’s make a code in python which converts sales target numeric value(1-100) in grade (best, better, good, worse, bad)

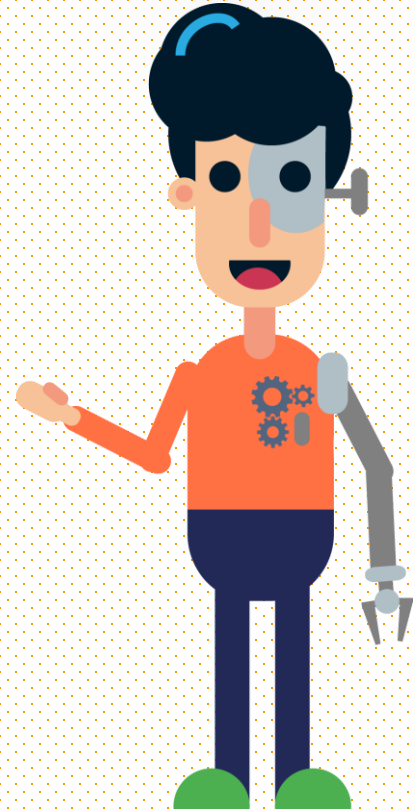


Problem 4

In class 9th the students are given a task of writing a factor of a particular number, and prints out a list of all the factor of that particular number.

STEPS:

- Creating lists
create lists of numbers in python is easy way
exp:
create a lists of number from 1 to7 using code
`Y = range(1,8)`
- Combining lists
- Conditionals
- User input



Problem 5

In a university, a professor of computer science branch asks the students of two sections about their age. In both of the section there are different number of students.

So create a program that returns the common age between them without duplication.

Example:

```
X = [ 27,26,21,25,24,26,27,29,28,22,24,23]
```

```
Y = [ 23,24,25,25,27,29,28,22,22,26,25,24,24,21,23,25]
```

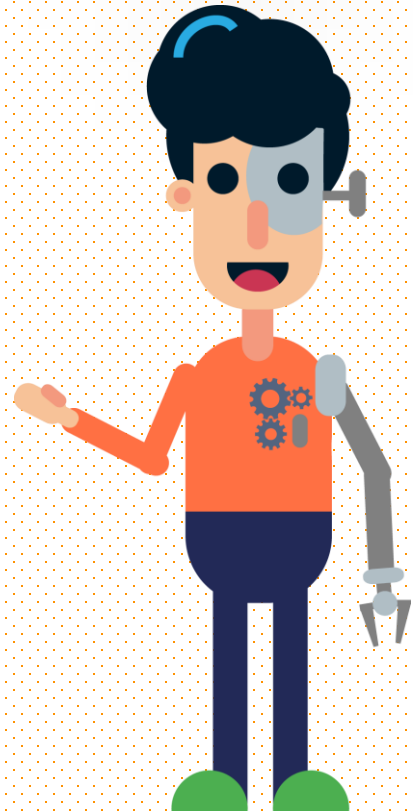
STEPS:

- List
python can figure out which one is inside the lists or not
for example:

```
>>> A =[ 14, sam,23]
```

```
>>> sam in A
```

```
True
```
- Loops
- Conditionals
- constructs



Problem 6

In a Class an English Teacher gave his students a list of words and asks them to separate words which are palindrome. A palindrome is a word which is read same as backward and forward.

STEPS:

- Indexing list
in a list, if we want to print any element from list .we can
Example:

```
>>> A =[4,6,8,23,27]
```

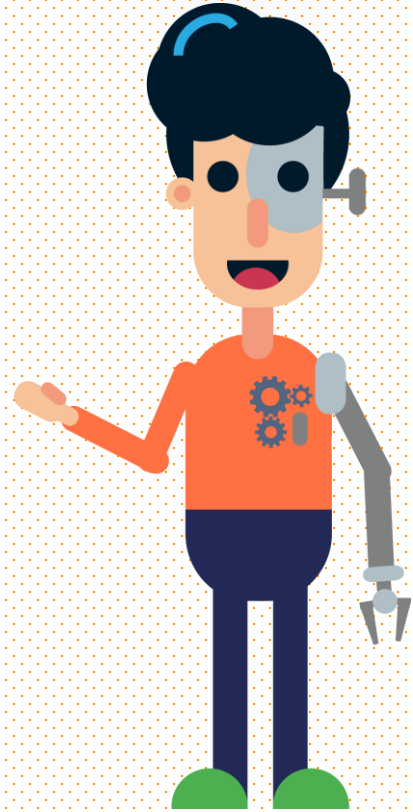

If we want to print 3rd element then

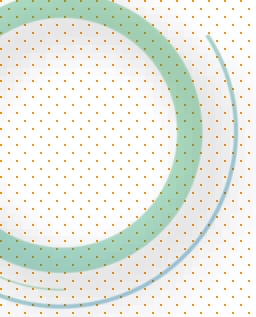
```
>>>A[2]
```


8
- strings are lists:
strings are list so we can do to anything in strings which can we do with lists

Example:

```
>>>string= "something"  
>>> p= string[0:4]  
>>> print p
```



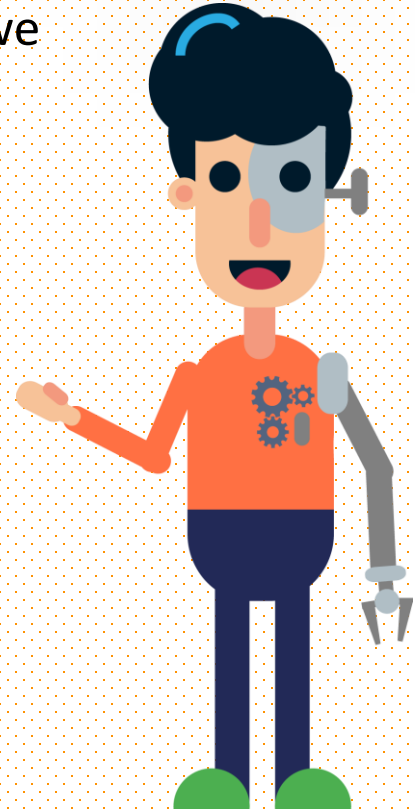


Problem 7

In a locality ,there are some houses , and in each house there are some members ,we have a lists of sum of ages of all members of every house.
So write a program to find Even sum of ages.

STEPS:

- List comprehensions:
for making code more compact,
we use list comprehension for
involving lists.
For understanding the concept we take a example:
 - `birth_year = [2001,2006,2002,2002,2006]`
 - `age = []`
 - `for year in birth_year:`
 - `age.append(2019- year)`
 - For loop

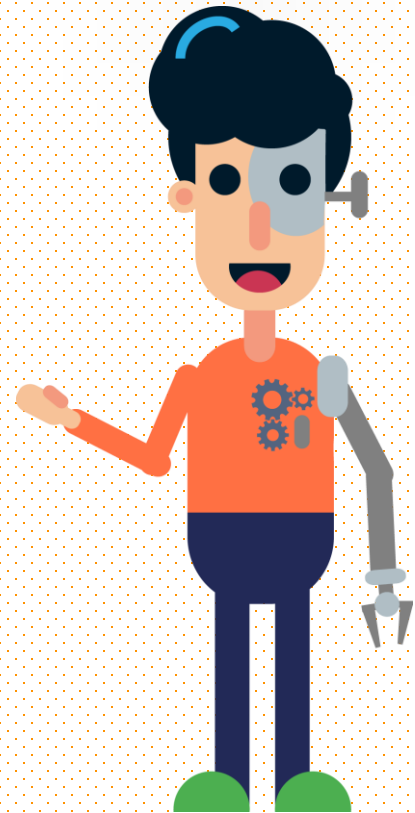


Problem 8

In a Class a student plays a game with other students. He asks them to think of a number from 2-12 (including 2 and 12) and then he tries to make the guess of the numbers. Write a program that will tell whether his guess was accurate or not or close or far away from the number thought by a student.

STEPS:

- Modules:
In Python, distributed code packages are called modules.
- Random numbers:
random numbers come from the random module.
- Using module:
`import random`
this is the allow python to generate random number, using this random module and then generate random integer by this code

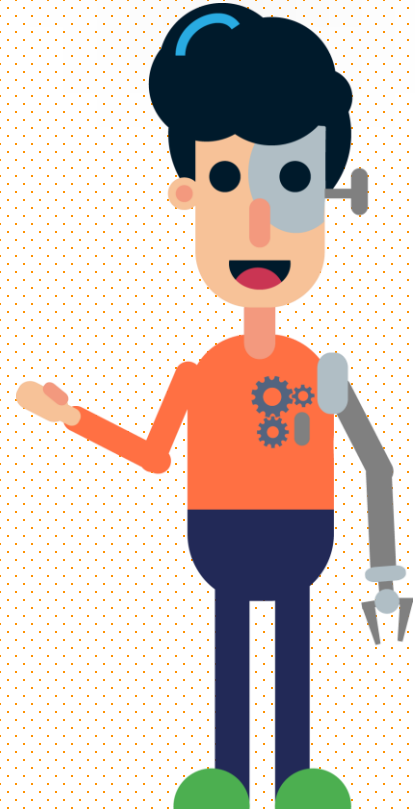


Problem 9

In a university, there are number of courses, and in each course there are many branches in which different sections have distinct number of students, management team has been given a task of finding the sections which have the count of total students is prime number.

STEPS:

- Functions
- Reusable functions
- Default arguments



Problem 10

We have a list of random numbers , create a program, first sort the lists in increasing order, and then find the first and last number.

STEPS:

- Lists and properties of lists
- List comprehensions
- Functions

