**IDE – Integrated development environment**

IDE – an IDE is a s/w application that provides environment for computer programmers for software development.

Now it’s time to use and IDE(Integrated development environment) like Pycharm, or VSCode or Atom or eclipse – Why do we need one?

Till now we had used the IDLE which is interactive, when we need to work on large projects we need to have look at the code, work on it and resolve if any errors.

My preference is VSCode

First of all what is a bug – it is a flaw or error in the program or code.

What is debugging? – In computer programming debugging is the process of finding and resolving the bugs within the computer programs, software’s or systems.

F5 is the shortcut in VSCode to start debugging --- however before we start to debug we need to tell the IDE to set up a breakpoint(a breakpoint is an intentional stopping or pausing place in program, put in place for debugging purposes). Think of it as simply pause.

Let’s see a sample program in VSCode and see how debugging works.

X = 10

Y = 1

Sum = x + y

Print(sum)

**User input in Python**

till now we are playing with functions like print let’s try input

x = input()

y = input()

sum = x + y

print(sum)

default input function will always give you string type. Hence the above output. Now let’s try to modify it and make changes accordingly.

What do we need to do : we need to make the string to int type and how do we do it?

X = input(‘enter the first number?’)

A = int(x)

Y = input(‘enter the second number:)

B = int(y)

Z = a + b

Print(z)

In the above program we are wasting some lines of code, hence we will modify it and make it a bit better

X = int(input(‘first num’)

Y = int(input(‘second num’)

Z = x + y

Print(z)

Let’s try to print the first character of the string

Character = input(‘enter a char’) – we will give p

Print(character)

What to do if our user enters a string and we still need a single character as output

Clue: we need to use index value

Question: what will be the output for the below code.

char = input(‘enter the char’)[0]

Print(char)

Let’s take a look at evaluation as an example below

Result = eval (input(‘enter an expression: ‘) –we will enter the input like 2 + 6 + 1 - 1

Print(result) – what do you think it will print?

Argv – argument values which will be used with index numbers

Text

Description automatically generated

Let’s write the code now with argv

X = argv[1]

Y = argv[2]

Z = x + y

Print(z)

Now we need to fix the code

Hint: use the module required for argv

import sys

x = int(sys.argv[1])

y = int(sys.argv[2])

print('sum is: ' + str(x + y))

# print\_first\_char = input('enter a character: ')[0]

# print(print\_first\_char)

# result = eval(input('enter an expression: '))

# print(result)