**Python – intermediate 2**

1. Import allows you to include another file of code in your current file or a specific function. For example, when we build a big project, we would like to break it into pieces so it will be readable, with import we can connect all those files.
2. If the file, we want to import was saved in the same directory as the file we are writing we can use a relative path because it’s located in our current location. If the file isn’t saved in same directory, we need to use its absolute path (path from root) to know where the file is saved.
3. When the main file is called the value of \_\_name\_\_ is \_\_main\_\_ so when we want to run the main file this condition is true and function main is activated. It prevents running the main code of an imported file that we want to use its functions.
4. A class is like a customize object. We create a class to match our needs from the objects. For example, for person class we would like it to have a name and age, we can customize many objects like this.
5. We would like to use classes instead of simple object because a class can contain complex objects too. For example, a class can contain function that match the object use and makes it easier and shorter for the programmer to write code.
6. Class attributes are variables of a class that are shared between its instances. The attributes hold values of the object for example, in person class the attribute name holds the name of the person for every object that we create from class person.
7. An object of a class is a collection of data (variables) and methods (functions). Every time we want to use the class we create an object of the class. For example,

person\_one = Person(‘shahaf’, 18), person\_one is an object of the class Person that its name is shahaf and age is 18.

1. Constructors are used to instantiate an object if a class. The constructor is always called when an object is created. The name of the constructor function is \_\_init\_\_. Destructor are called when an object gets destroyed. The destructor deletes the object from the memory. The name of the destructor is \_\_del\_\_.
2. Self represent the instance of the class. The keyword self is used to let the objects method to use its own attributes. It binds the attributes with the given arguments.
3. Inheritance allows us to define a classed that is based on another class, it inherits all the methods and attributes of another class. By that, we can write a shorter code and provides the reusability of a code.
4. Polymorphism means having many forms. In programing polymorphism means the same function name is being used for different types. The difference is the data types and number of arguments used in the function.
5. Static variables are created outside if methods but inside a class. The static variables can be accessed through a class but not directly with an instance of the class. Their behavior does not change for each object. We will use it when there is a shared state between instances.
6. Enums is a set of symbolic names bound to unique values. Enums can be iterated in definition order. It provides a way to create readable and self-documenting code.
7. We would like to use enums instead of alternatives because of a couple of reasons. First, they provide some type of type safety, ensuring that only valid values can be used. Moreover, they reduce the risk of errors by preventing the use of incorrect or inconsistent values in your code.