1. Creating an virtual enviroment (git bash)

* Command creating env: python -m venv enviroment\_name
* Activating virutal enviroment using command: source env/Scripts/activate
* To see all installed packages we use command: pip freeze
* To deactivate virtual env we use command: deactivate

1. Intsaling Django in venv (git bash; Django version 4.2.2)

* To install Django we use command: pip install django
* To create django project: django-admin startproject greatkart . (with the dot in the end)
* To activate django server: python manage.py runserver

1. Running http respone (visual studio code)

* Before changing anything in the files, we need to change python intepreter in VSC to the one created as virtual enviroment.
* Adding to file urls.py one more url link and importing file views
* Creating folder views.py in which is placed the template to the site from bootstrap.

1. Importing bootstrap templates

* Importing template files to main folder
* Creating folder templates in main project folder, in which is created a file named home.html
* Changes in the folder greatkart, file settings.py. Setting the variable TEMPLATES argument DIRS to ‘templates’ incializing the previously created folder
* Copying the code from index.html to home.html
* Creating folder named static and moving to it all folders from template (css, fonts, images, js)
* Creating new variables in file settings.py:
* STATIC\_ROOT which refers to the static folder
  + STATICFILES\_DIRS which refers to the static folder
* Running command „python manage.py collectstatic” in gitbush which will copy all files from the static folder ale create another one in the root folder.

1. Dividing sections from html file

* Loading the static folder to home.html file using DTL (Django Template Language). DTL is used for generating dynamic content and dividing parts of code into sections which are then conected with each other through refrences.
* Method I:
  + Adding a line of code {% load static %} in the beginning of the html file
  + Changing all the refrences to css links and js scripts. The pattern is {% static ‘link\_or\_script\_path’ %}.
  + Changing all the refrences to images. The pattern is {% static ‘image\_path’ %}.
* Creating another html file named base in folder templates.
* Extracting to base.html the head and header section of home.html.
* Joining two html files with {% extends ‘base.html’ %} placed in the home.html
* Using {% block content %} and {% endblock %} to place in right place the code from the other file.
* Method II:
* Creating a folder named inlcudes
* Placing two files footer.html and navbar.html
* Cutting out the footer and nav sections from html files and placing them acordingly as the names of files
* Placing {% include 'includes/navbar.html' %} and {% include 'includes/footer.html' %} before and after the section block in the base.html file
* \* Adding to some files {% load static %} that need refrence to this folder.

1. Creating app (django-admin-panel)

* Creating a folder named category with „python manage.py startapp category” (bash). Its a Django framework command that generates a structure for new app.
* Registering the category app in INSTALLED\_APPS list in file settings.py
* Django.db models enables to define datamodels that we can use to keep, download, modify or delete data in database. It enables interaciton with database and it lets to manipulate data in Django app.
* Creating a category class in models.py in order to keep data in database
* Importing and registering model in admin.py
* Installing pillow framework for images
* Command „python manage.py makemigrations” creates migration files. It is used to propagate changes in the models into the database schema.
* Running created migration file „python manage.py migrate”
* Creating a superuser to enable entering into /admin site with command „winpty python manage.py createsuperuser” (bash)
* To change the spelling of „Categorys” to „Categories” in admin panel, we create meta class in models.py

1. Custom user model

* Creating new user app named accounts „python manage.py startapp accounts” (bash)
* In the main folder greatkart, we add in file settings.py another argument to variable INSTALLED\_APPS
* Creating accounts models in file models.py
* Importing AbstractBaseUser to assure basic user model implementation, and BaseUserManager to manage those models
* Creating mandatory fileds such as join date or last login date
* Creating superadmin model in file models.py
* Creating if cases for mandatory fields
* Creating user creator function
* Creating superuser creator function
* Setting superuser privileges to True
* Adding a new variable AUTH\_USER\_MODEL to file settings.py in greatkart folder with the path to the Account class
* Registering the model in admin.py file in accounts folder
* Deleting the previous database because it may contain old data that would result in a conflict with data
* Making migrations to the app with new functions
* Creating a superuser in bash

1. Changing password field in django admin panel to read only

* Importing in file admin.py the UserAdmin module which provides an ready to go admin configuration panel for the user model.
* Creating class AccountAdmin in admin.py file

1. Configuring media files

* Adding two varaibles MEDIA and MEDIA\_ROOT to settings.py file in greatkart folder. Those two files describe the path to images, movies etc.
* Adding „static(settings.MEDIA\_URL, document\_root=settings.MEDIA\_ROOT)” into urls.py to set path for the media files (folder media in root folder).
* Data is stored in default db.sqlite file created by Django framework

1. Pre-populate Category Slug

* Changing the type of sług variable to SlugField in models.py (category folder)
* Migrating files (bash)
* Creating class CategoryAdmin in admin.py (category folder) and registering it.

1. Creating store app (for products)

* Creating store app in bash
* Adding store app into setting.py in variable INSTALLED\_APPS as one of arguments
* Creating class product in models.py (store folder) with the necessary fields.
* Registering the app in admin.py (store folder) and creating duplicate action for sług field and registering it.
* Migrate changes

1. Adding products via admin panel
2. Adding products to template

* Importing product module from models.py in store folder to views.py placed in greatkart folder
* Adding context variable and returning it
* Deleting from home.html (templates folder) all the static displayed products, leaving only one
* Adding inside the home.html file, DTL code that runs eight times (numer of products added) for loop, displaying the same static product (for now)
* Displaying product name, price and image on the template using DTL code.

1. Adding Store Page

* Creating file urls.py in store folder
* Redirecting the store page in urls.py (greatkart folder)
* Importing views module into urls.py in store folder
* Creating function in views.py file in store folder
* Creating new folder and file named store and store.html in templates folder
* Importing template to created html store file
* Impotring header and footer from templates using DTL
* Copying code from store.html (greatkart\_templates folder) two sections: PAGETOP and SECTION into store.html (templates/store folder) inside the block and end content lines.
* Loading static for and changing the path of static images to display them on the store site

1. Adding products to store page

* Creating view in views.py (store folder) and rendering it
* Adding DTL for loop and reference code to product names, images and prices in the store.html (templates/store folder)
* Creating another variable „product\_count” in views.py (store folder) that counts the number or products
* Passing this variable through render function to store.html

1. Displaying products by category

* Adding path to urls.py in store folder
* Creating views in views.py (store folder)
* Importing category.models with category class

1. Making context processors for displaying categories

* Creating context processors file in category folder
* Creating function in context\_processors.py that stores all the categories and return them in dictionary format
* Adding this newly created python into the setting.py file (greatkart folder) into the TEMPLATES variable. This enables to use the menu\_links variable in any template we want.
* Adding a for loop and category name in the navbar section in templates folder and navabar.html (only displaying)
* Creating a function get\_url in the models.py (category folder) that gathers all of the sług category names
* The reverse django function takes on or more argumnets and returns a string representing the URL that matches the given URL patern
* Adding this function into the navbar reference (href = ) in the navbar.html file (templates/includes folder)