1-Run a container from mariadb image

```
kareem@kareenvm ~/Documents/depi3/depi_r3/Task4 $ docker images -a
REPOSITORY       TAG       IMAGE ID       CREATED       SIZE
httpd            latest    5bdbc621ec08   3 days ago    148MB
jenkins/jenkins  latest    153f55e76af4   4 days ago    479MB
mariadb          latest    dae0c92b7b63   6 weeks ago   329MB
hello-world      latest    74cc54e27dc4   6 months ago  10.1kB
kareem@kareenvm ~/Documents/depi3/depi_r3/Task4 $ docker run mariadb:latest
2025-07-26 19:16:58+00:00 [Note] [Entrypoint]: Entrypoint script for MariaDB Server 1:11.8.2+maria~ubu2404 started.
2025-07-26 19:16:59+00:00 [Warn] [Entrypoint]: /sys/fs/cgroup///memory.pressure not writable, functionality unavailable to MariaDB
2025-07-26 19:16:59+00:00 [Note] [Entrypoint]: Switching to dedicated user 'mysql'
2025-07-26 19:16:59+00:00 [Note] [Entrypoint]: Entrypoint script for MariaDB Server 1:11.8.2+maria~ubu2404 started.
2025-07-26 19:16:59+00:00 [ERROR] [Entrypoint]: Database is uninitialized and password option is not specified
        You need to specify one of MARIADB_ROOT_PASSWORD, MARIADB_ROOT_PASSWORD_HASH, MARIADB_ALLOW_EMPTY_ROOT_PASSWORD and MARIADB_RANDOM_ROOT_PASSWO
RD
kareem@kareenvm ~/Documents/depi3/depi_r3/Task4 $ docker run --name kareem-mariadb -p 3306:3306 -d -e MARIADB_ROOT_PASSWORD='kareem01' mariadb:latest
efce47a9517a4db56408ec4bce31fae6be8aba301b40418d896baded430249aa
kareem@kareenvm ~/Documents/depi3/depi_r3/Task4 $ docker ps -a
CONTAINER ID  IMAGE          COMMAND               CREATED          STATUS                 PORTS                                            NA
MES
efce47a9517a  mariadb:latest "docker-entrypoint.s…" 5 seconds ago    Up 5 seconds           0.0.0.0:3306->3306/tcp, [::]:3306->3306/tcp  ka
reem-mariadb
1182345df6b9  mariadb:latest "docker-entrypoint.s…" 52 seconds ago   Exited (1) 51 seconds ago                                           ex
citing_chebyshev
kareem@kareenvm ~/Documents/depi3/depi_r3/Task4 $
```

first try it failed due to it needing to initialize a Password

Second try passed environment variable as stated with the password and run on detached mode with ports 3306 on host to 3306 on container with container name 'kareem-mariadb'

With command > docker run –name kareem-mariadb -p 3306:3306 -d -e MARIADB_ROOT_PASSWORD='kareem01' mariadb:latest

2- run another container but with a different port 3307

```
kareem@kareenvm ~/Documents/depi3/depi_r3/Task4 $ docker ps -a
CONTAINER ID  IMAGE          COMMAND               CREATED          STATUS           PORTS                                            NAMES
efce47a9517a  mariadb:latest "docker-entrypoint.s…" 13 minutes ago   Up 13 minutes    0.0.0.0:3306->3306/tcp, [::]:3306->3306/tcp  kareem-mariadb
kareem@kareenvm ~/Documents/depi3/depi_r3/Task4 $ docker run --name secondmdb -p 3307:3306 -d -e MARIADB_ROOT_PASSWORD='kareem01' mariadb:latest
1fd5afc15bd919d5fdb6451a1dcf4a7334bb88890de30368d0bc14485e16b88b
kareem@kareenvm ~/Documents/depi3/depi_r3/Task4 $ docker ps -a
CONTAINER ID  IMAGE          COMMAND               CREATED          STATUS           PORTS                                            NAMES
1fd5afc15bd9  mariadb:latest "docker-entrypoint.s…" 3 seconds ago    Up 2 seconds     0.0.0.0:3307->3306/tcp, [::]:3307->3306/tcp  secondmdb
efce47a9517a  mariadb:latest "docker-entrypoint.s…" 14 minutes ago   Up 14 minutes    0.0.0.0:3306->3306/tcp, [::]:3306->3306/tcp  kareem-mariadb
kareem@kareenvm ~/Documents/depi3/depi_r3/Task4 $
```

3- to know the default port on any image we can run >

➢ Docker image inspect mariadb

```
        ]
    },
    "Metadata": {
        "LastTagTime": "0001-01-01T00:00:00Z"
    },
    "Config": {
        "Cmd": [
            "mariadbd"
        ],
        "Entrypoint": [
            "docker-entrypoint.sh"
        ],
        "Env": [
            "PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin",
            "GOSU_VERSION=1.17",
            "LANG=C.UTF-8",
            "MARIADB_VERSION=1:11.8.2+maria~ubu2404"
        ],
        "ExposedPorts": {
            "3306/tcp": {}
        },
        "Labels": {
            "org.opencontainers.image.authors": "MariaDB Community",
            "org.opencontainers.image.base.name": "docker.io/library/ubuntu:noble",
            "org.opencontainers.image.description": "MariaDB Database for relational SQL",
            "org.opencontainers.image.documentation": "https://hub.docker.com/_/mariadb/",
            "org.opencontainers.image.licenses": "GPL-2.0",
            "org.opencontainers.image.ref.name": "ubuntu",
            "org.opencontainers.image.source": "https://github.com/MariaDB/mariadb-docker",
            "org.opencontainers.image.title": "MariaDB Database",
            "org.opencontainers.image.url": "https://github.com/MariaDB/mariadb-docker",
            "org.opencontainers.image.vendor": "MariaDB Community",
            "org.opencontainers.image.version": "11.8.2"
        },
        "OnBuild": null,
        "User": "",
        "Volumes": {
            "/var/lib/mysql": {}
        },
        "WorkingDir": ""
    }
}
```

As we can see under ExposedPort is is stated 3306