**MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC OF**

**KAZAKHSTAN**

**“Kazakh-British Technical University” JSC**

**Faculty of Information Technology**

**Speciality 6В06101 “Information Systems”, 6В06102 “Computer Systems and Software”, 6В07103 “Automation and Control”**

**ADMITTED TO DEFENCE**

Dean of FIT,

Associate Professor, PhD

\_\_\_\_\_\_\_\_\_\_\_ A.Bisembayev

“\_\_\_”\_\_\_\_\_\_\_\_\_\_\_ 2022

**EXPLANATORY NOTE**

**TO GRADUATION PROJECT (work)**

**Theme:** “Modeling and analysis xxx x xxxxxxxxxx xx xxxxx x xxxxxx”

**Author:**

\_\_\_\_\_\_\_\_\_\_\_\_ S. Serikbayev

**Co-authors:**

\_\_\_\_\_\_\_\_\_\_\_\_ B. Berikbayev

\_\_\_\_\_\_\_\_\_\_\_\_ A. Assanaliyev

\_\_\_\_\_\_\_\_\_\_\_\_ G. Gumarova

“\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_ 2022

**Major:**

5B070400

“Computer Systems and Software”, 5B070300 “Information Systems

**Supervisor:**

Professor, PhD

\_\_\_\_\_\_\_\_\_\_\_\_\_\_ R. Kini

“\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_ 2021

**Norms Compliance Monitor**

\_\_\_\_\_\_\_\_\_\_\_\_ A. Omarova

“\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_ 2022

**Almaty, 2022**

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\_\_\_\_\_\_\_\_\_\_\_ A.Bisembayev

“\_\_\_”\_\_\_\_\_\_\_\_\_\_\_ 2022

**DIPLOMA PROJECT ASSIGNMENT**

Students: Serik Serikbayev, Berik Berikbayev, Assanali Assanaliyev, Gaukhar Gumarova

Project title: “Modeling and analysis xxx x xxxxxxxxxx xx xxxxx x xxxxxx”

Approved by the KBTU order: № \_\_\_\_\_\_\_dated “\_\_\_” \_\_\_\_\_\_\_\_\_\_\_

Submission deadline: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

List of issues addressed in the diploma project or its brief content:

1. xxxxx
2. xxxxx
3. xxxxx
4. xxxxx
5. xxxxx
6. xxxxx
7. xxxxx

List of graphics (with precise indicationof obligatory drawings):

1. Tables (6)
2. Figures (28)

Consultations regarding the project with indication of respective reasons:

|  |  |  |  |
| --- | --- | --- | --- |
| Section | Consultant  (academic degree, title) | Timeline | Signature |
| Section 1 | R. Kini,  Professor, PhD |  |  |
| Section 2 | A.A. Pak,  Assistant Professor, Cand. Tech. Sci. |  |  |
| Section X | R. Kini,  Professor, PhD |  |  |
| Section Y | T.I. Samigulin,  Senior lecturer, MSc |  |  |

**DIPLOMA PROJECT WORK SCHEDULE**

|  |  |  |
| --- | --- | --- |
| Sections, issues addressed | Submission deadline | Notes |
| Section 1 |  |  |
| Section 2 |  |  |
| Section X |  |  |
| Section Y |  |  |

Dean of Faculty \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A. Bisembayev

(signature)

Project Supervisor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ R. Kini

(signature)

Author \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ S. Serikbayev

(signature)

Co-authors \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B. Berikbayev

(signature)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A. Assanaliyev

(signature)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ G. Gumarova

(signature)

Date «\_\_\_\_» \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2022

**Project sheet**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| № | Format | Designation | Denomination | Quantity | Note |
| 1 | A4 |  | Explanatory note | 1 | 78 pages |
| 2 | .pdf |  | Electronic copy of the diploma project | 1 |  |
| 3 | .pdf |  | Presentation File | 1 |  |

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**ABSTRACT**

The given diploma project is dedicated to xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx.

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**АҢДАТПА**

Бұл дипломдық жоба xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx.

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**АННОТАЦИЯ**

Данный дипломный проект посвящен xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx xxxxxxxx xxxx xxxx x xxxxxxxx.

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**CONTENT**

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[**1 XXXXXXXXX**](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.g732xp2vh8pu)[**13**](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.g732xp2vh8pu)

[1.1 xxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.2l1jqcah5pny) [13](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.2l1jqcah5pny)

[1.2 xxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.h1s3vtypcvw2) [1](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.h1s3vtypcvw2)4

[1.3 xxxxxxx xxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.6779sgcl54iz) [17](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.6779sgcl54iz)

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[1.5.2 xx xxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.c03s3kyzdsk3) [2](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.c03s3kyzdsk3)0

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[2.1 xxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.qa5dj7u1ei7s) [2](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.qa5dj7u1ei7s)3

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[3.1 XXXX](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.8u3hbpg0g7ni) XXX [2](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.8u3hbpg0g7ni)5

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[4.1 xxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.f9stfvjrysjj) [3](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.f9stfvjrysjj)0

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[4.5 xxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.zeaxozwczb3n) [3](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.zeaxozwczb3n)6

[4.6 xxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.7rqb5lkjz2in) [3](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.7rqb5lkjz2in)8

[**5 XXXXXXXXXXXXXXXX**](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.glwp3pqaeyd6)[**4**](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.glwp3pqaeyd6)**0**

[5.1](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.jgn2fdsqqqo9) xxxxxxx [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.jgn2fdsqqqo9)0

[5.1.1](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.o4bh52cr4m2z) xxxxxxxxxxxxxx [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.o4bh52cr4m2z)0

[5.1.2 xxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.uk3zy8w5jl4h) [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.uk3zy8w5jl4h)0

[5.1.3 xxxxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.m1sxv0hg6wj3) [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.m1sxv0hg6wj3)1

[5.2 xxxxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.q1qubofejydq) [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.q1qubofejydq)1

[5.3 xxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.7ua6avttrlgw) [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.7ua6avttrlgw)2

[5.3.1 xxxxxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.4l0qlu801dc1) [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.4l0qlu801dc1)3

[5.3.2 xxxxxxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.5arw3oxyhnkf) [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.5arw3oxyhnkf)3

[5.3.3 xxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.g64jipf3wd1k) [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.g64jipf3wd1k)4

[5.3.4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.a6tb10u0agyw) xxxxxxxxxxxxx [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.a6tb10u0agyw)4

[5.3.5 xxxxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.c46yjplhj0) [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.c46yjplhj0)5

[5.4 xxxxxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.o2yrntprsnay) [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.o2yrntprsnay)6

[5.4.1 xxxxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.ah9ussbtu2h5) [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.ah9ussbtu2h5)6

[5.5 xxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.tzc7l1x6q3oe) [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.tzc7l1x6q3oe)7

[5.6](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.tzc7l1x6q3oe) Kxxxxxxxxxxxxxxxx [4](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.tzc7l1x6q3oe)8

[5.6.1 Kxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.avsc9vfyp3ri) 49

[5.7 xxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.b51vbndy8qm5) [5](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.b51vbndy8qm5)0

[**6 XXXXXXXXXXXXXXXXX**](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.gjedj0pq0as7)[**5**](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.gjedj0pq0as7)**1**

[6.1 xxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.d78xrvx87ldo) [5](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.d78xrvx87ldo)1

[6.1.1 xxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.xgucpes1u7m0) [5](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.xgucpes1u7m0)1

[6.1.2 xxxxxxxxxxxxt](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.dq3gtwt0a5mc) [5](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.dq3gtwt0a5mc)2

[6.1.3 xxxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.4ojfunuw3h4w) [5](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.4ojfunuw3h4w)3

[6.2 xxx-xxxxxxxx xxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.vpksj43od37f) [5](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.vpksj43od37f)3

[6.2.1 xxx xx xxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.g06dw9uo3lne) [5](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.g06dw9uo3lne)4

[6.2.2 Pxxxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.vj6ud5xw2fc) [5](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.vj6ud5xw2fc)4

[6.2.3 xxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.ad2uvcta9ml0) [5](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.ad2uvcta9ml0)5

[6.3 Ixxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.31fzb51ub2q0) 58

[**7 XXXXXXXXXXXXXX**](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.ont67r1h1b24) **60**

[7.1 xxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.hyqfmv3ildef) [6](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.hyqfmv3ildef)0

[7.2 xxxxxxx axxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.fgnkh12mi06h) [6](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.fgnkh12mi06h)1

[7.3 xxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.5t2sg1v53eky) 66

[7.4 xxxxxxxxxxxxxx](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.xincdh976xwy) 67

[**CONCLUSION**](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.59alx4bw0m27)[**7**](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.59alx4bw0m27)**5**

[**REFERENCES**](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.i539hx8flgph) **76**

[**APPENDIX A**](https://docs.google.com/document/d/1hc8vrdZkmzC98FWjoBROytr5OHHCDY9Q3rLD2I5bSHA/edit#heading=h.r2tv7lbsbson) **78**

**INTRODUCTION**

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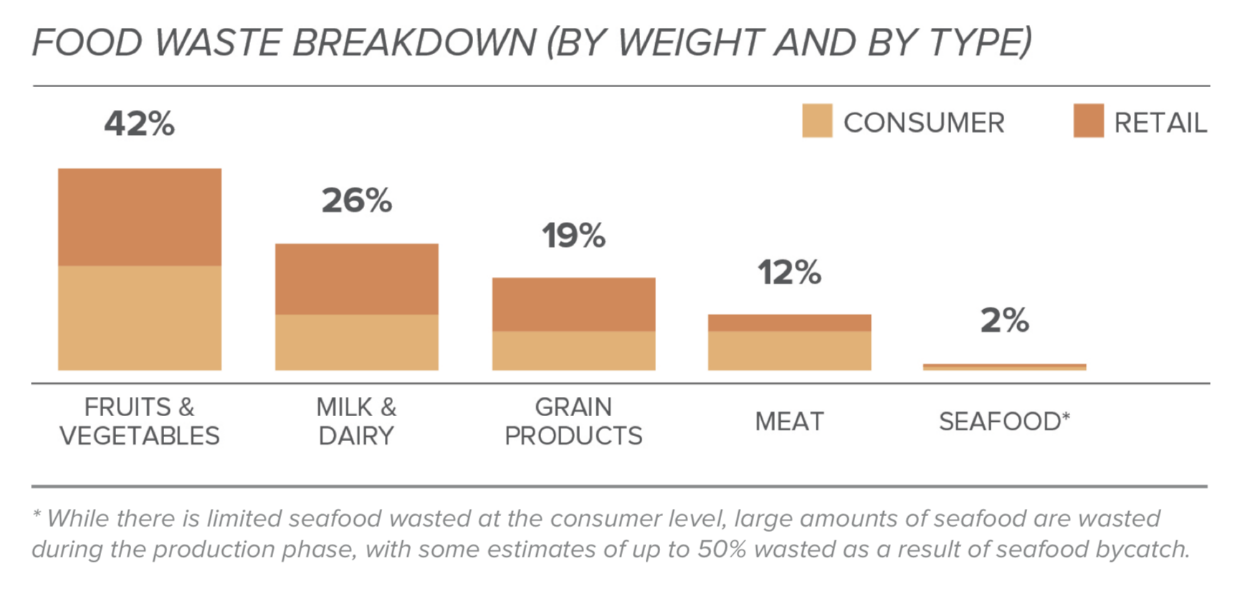


Figure 1.1 Food waste breakdown (by weight and by type)

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**1.2 Xxx xx xxxx**

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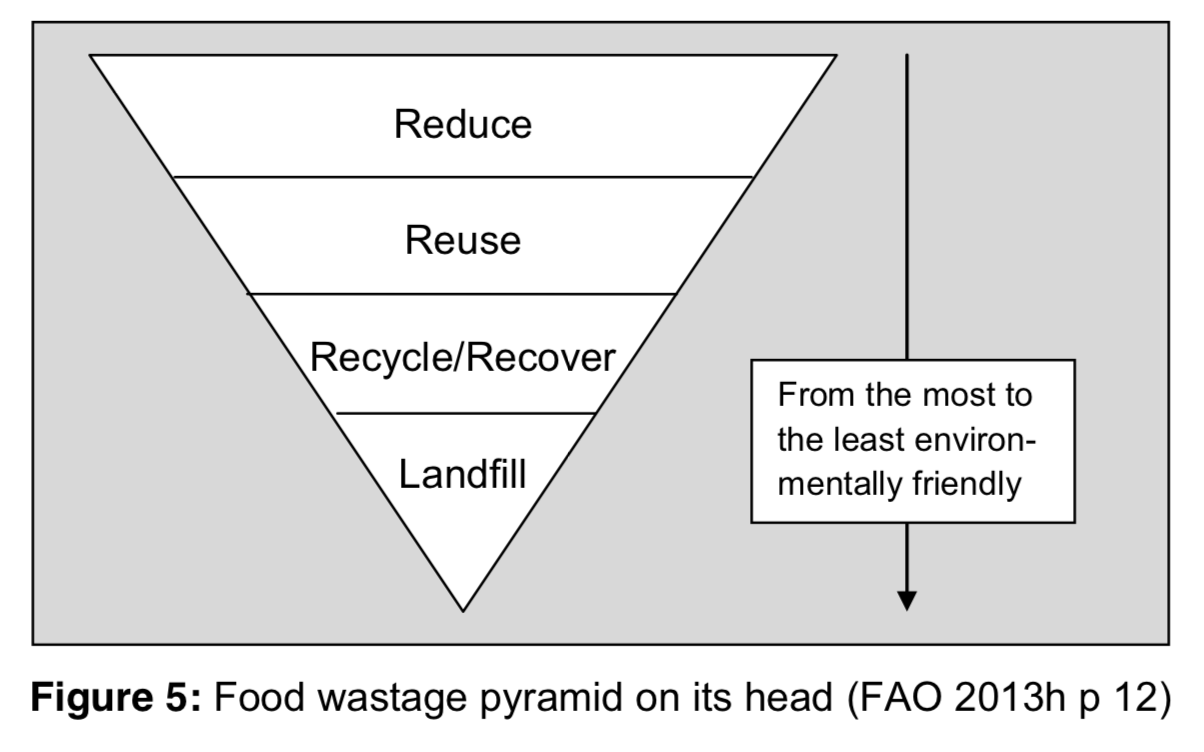
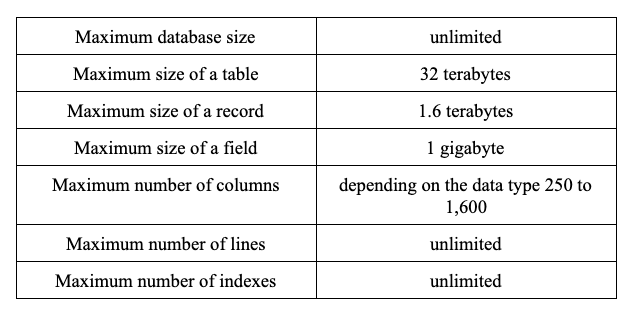


Figure 1.2 Food wastage pyramid on its head

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Table 1.1 Characteristics of PostgreSQL



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**CONCLUSION**

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