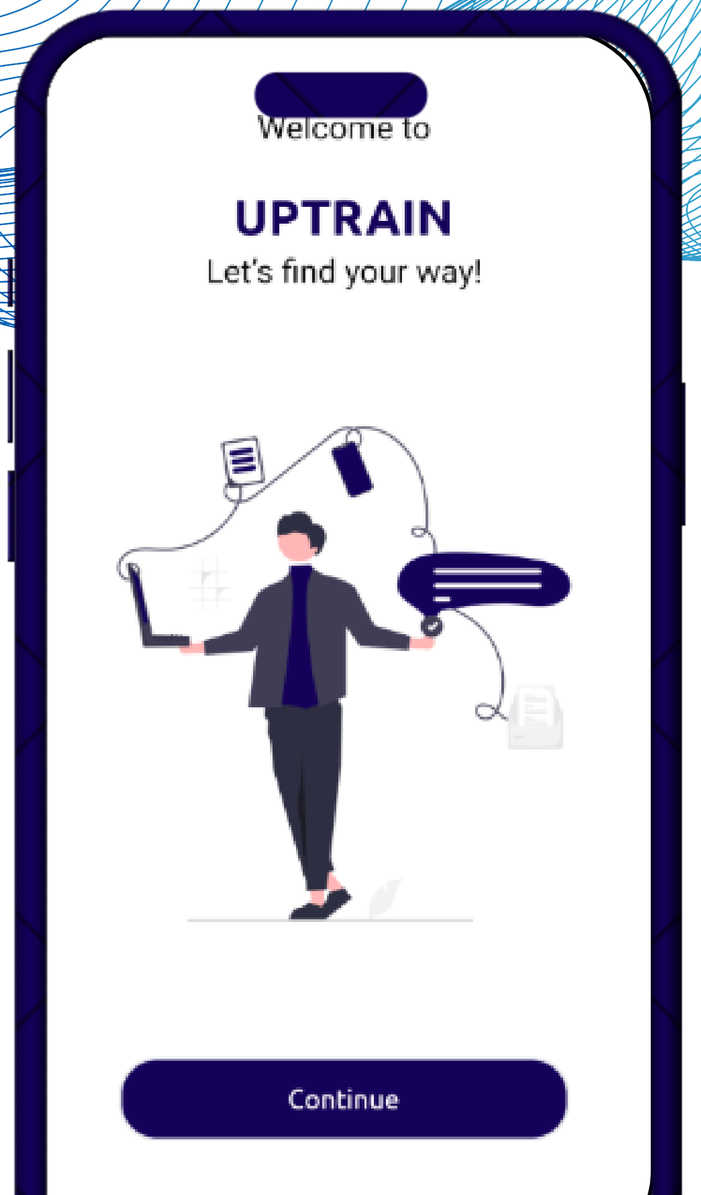
# UPTRAIN SYSTEM

**To find your best chance**

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Dr.Mona Demaidi

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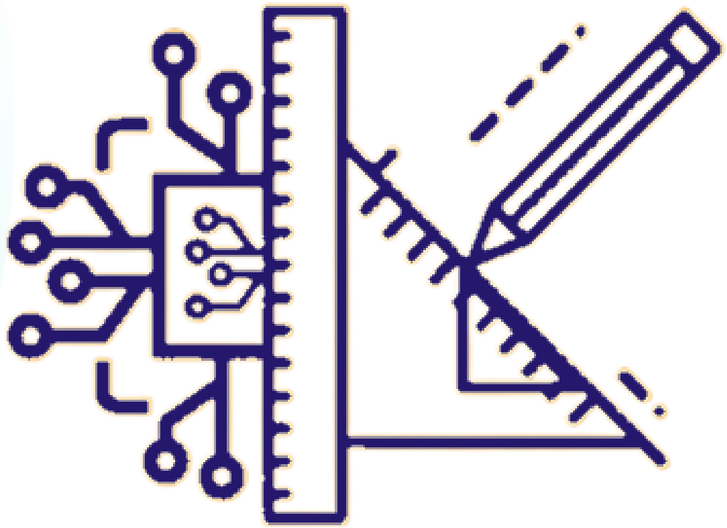
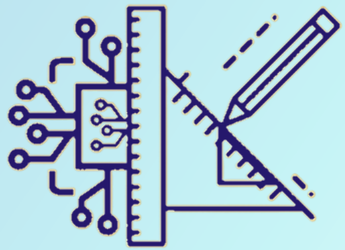
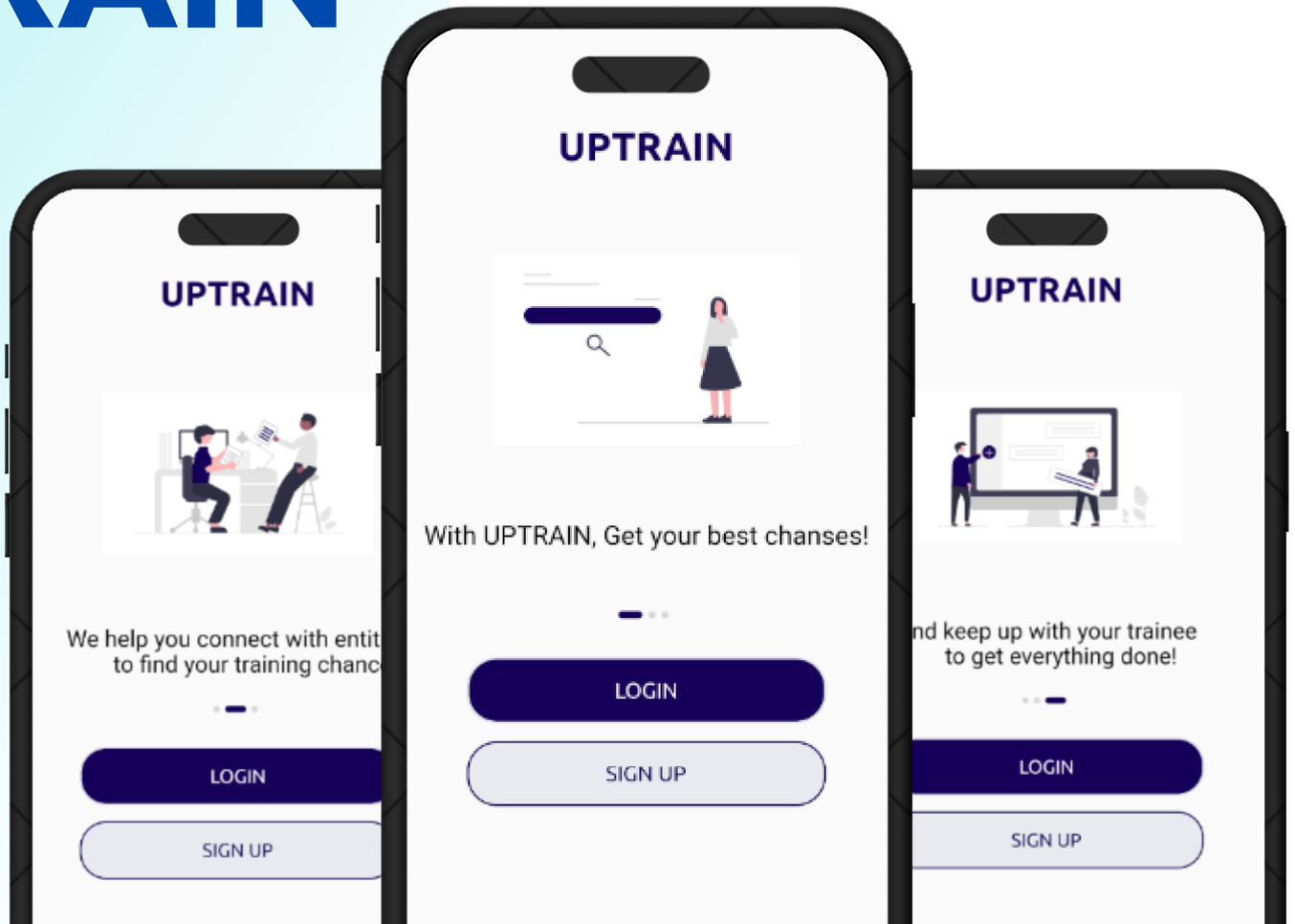
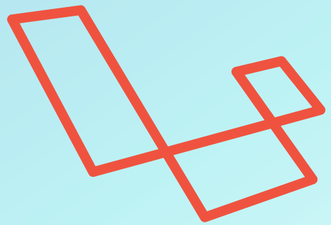


# ABOUT UPTRAIN





# TECHNOLOGIES



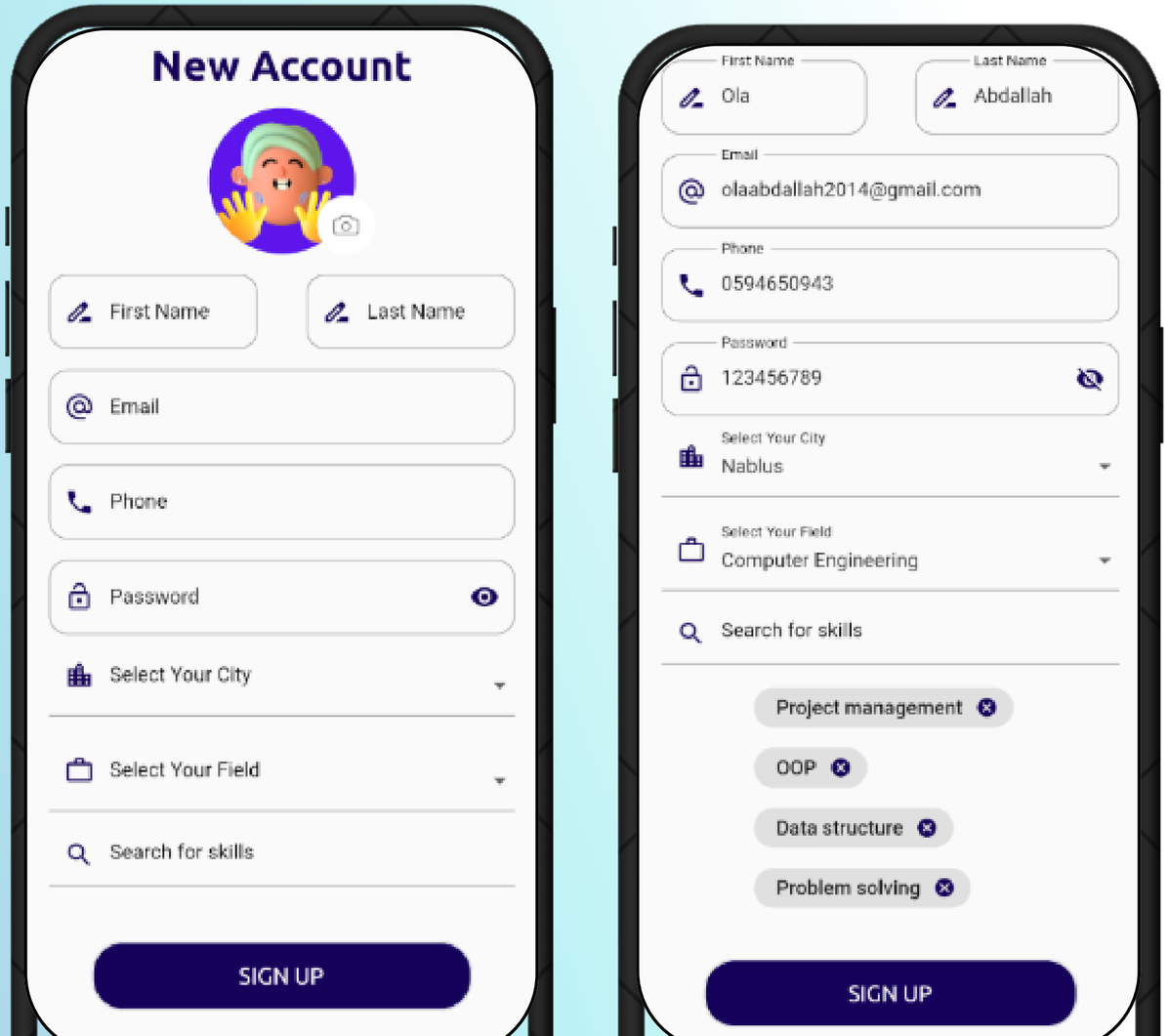
laravel

Flutter

python™

MySQL®

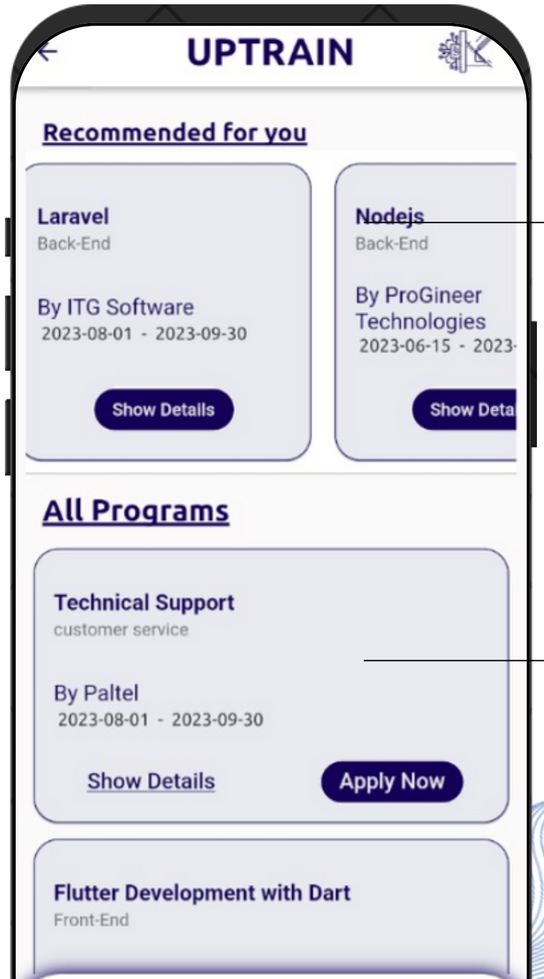
# STUDENTS REGISTRATION



# RECOMMENDATION SYSTEM

**UPTRAIN recommend the most suitable programs for your skills**

## How would that done?




Recommended programs

All Programs

| | skill_id | program_id | value |
|---|---|---|---|
| 0 | 1 | 1 | 1 |
| 1 | 2 | 1 | 1 |
| 2 | 7 | 2 | 1 |
| 3 | 53 | 2 | 1 |
| 4 | 1 | 3 | 1 |
| 5 | 46 | 4 | 1 |
| 6 | 46 | 5 | 1 |
| 7 | 30 | 6 | 1 |
| 8 | 44 | 6 | 1 |
| 9 | 44 | 7 | 1 |
| 10 | 30 | 7 | 1 |
| 11 | 26 | 8 | 1 |
| 12 | 21 | 8 | 1 |
| 13 | 20 | 8 | 1 |
| 14 | 26 | 9 | 1 |
| 15 | 21 | 9 | 1 |
| 16 | 20 | 9 | 1 |
| 17 | 47 | 10 | 1 |
| 18 | 16 | 10 | 1 |
| 19 | 48 | 10 | 1 |
| 20 | 47 | 11 | 1 |
| 21 | 16 | 11 | 1 |
| 22 | 48 | 11 | 1 |
| 23 | 47 | 12 | 1 |
| 24 | 16 | 12 | 1 |
| 25 | 48 | 12 | 1 |
| 26 | 16 | 13 | 1 |
| 27 | 3 | 13 | 1 |
| 28 | 17 | 13 | 1 |
| 29 | 5 | 14 | 1 |
| 30 | 6 | 14 | 1 |
| 31 | 7 | 14 | 1 |
| 32 | 3 | 14 | 1 |
| 33 | 3 | 15 | 1 |
| 34 | 52 | 15 | 1 |
| 35 | 5 | 16 | 1 |
| 36 | 6 | 16 | 1 |
| 37 | 7 | 16 | 1 |
| 38 | 10 | 16 | 1 |
| 39 | 14 | 17 | 1 |
| 40 | 56 | 17 | 1 |
| 41 | 55 | 18 | 1 |
| 42 | 58 | 19 | 1 |

Data-Frame represents a junction table (many to many) relationship between programs table and skills table

# Mapping and representing Programs as Vectors & Skills as Dimensions

| skill_id | 1 | 2 | 3 | 5 | 6 | 7 | 10 | 14 | 16 | 17 | ... | 30 | 44 | 46 | 47 | 48 | 52 | 53 | 55 | 56 | 58 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| program_id | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 3 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 16 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 17 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| 18 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| 19 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |

# Add virtual program with users' skills then measure distance between it and all other programs using **Euclidean Distance**

```
record = {
    'skills': [5, 7, 3]
}
```

**Student Virtual Vector**

| | | | | | | | | | | | ... | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| **19** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| **20** | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 |

| program_id | distance |
|---|---|
| **14** | 1.000000 |
| **2** | 1.732051 |
| **16** | 1.732051 |
| **15** | 1.732051 |
| **19** | 2.000000 |
| **3** | 2.000000 |
| **4** | 2.000000 |
| **5** | 2.000000 |
| **18** | 2.000000 |
| **13** | 2.000000 |
| **17** | 2.236068 |
| **1** | 2.236068 |
| **7** | 2.236068 |
| **6** | 2.236068 |
| **11** | 2.449490 |
| **9** | 2.449490 |
| **8** | 2.449490 |
| **12** | 2.449490 |
| **10** | 2.449490 |

| program_id | distance |
|---|---|
| 14 | 1.000000 |
| 2 | 1.732051 |
| 16 | 1.732051 |

| | id | skName |
|---|---|---|
| 2 | 3 | Problem solving |
| 4 | 5 | Css |
| 6 | 7 | Js |

| | id | pTitle | pStart_date | pEnd_date | pPhoto | pDetails | branch_id | company_id | trainer_id | created_at | updated_at |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | Nodejs | 2023-07-01 | 2023-09-30 | https://ibb.co/RTb5YMs | In this course, you will focus on Node.js and ... | 3 | 6 | 11 | 2023-05-12 20:22:53 | 2023-05-12 20:22:53 |
| 13 | 14 | ReactJs | 2023-08-01 | 2023-09-30 | https://ibb.co/RTb5YMs | React lets you build user interfaces out of in... | 2 | 7 | 14 | 2023-05-12 21:05:09 | 2023-05-12 21:05:09 |
| 15 | 16 | React Native | 2023-08-01 | 2023-09-30 | https://ibb.co/RTb5YMs | React Native is an open-source framework, mean... | 6 | 9 | 18 | 2023-05-12 21:08:12 | 2023-05-12 21:08:12 |