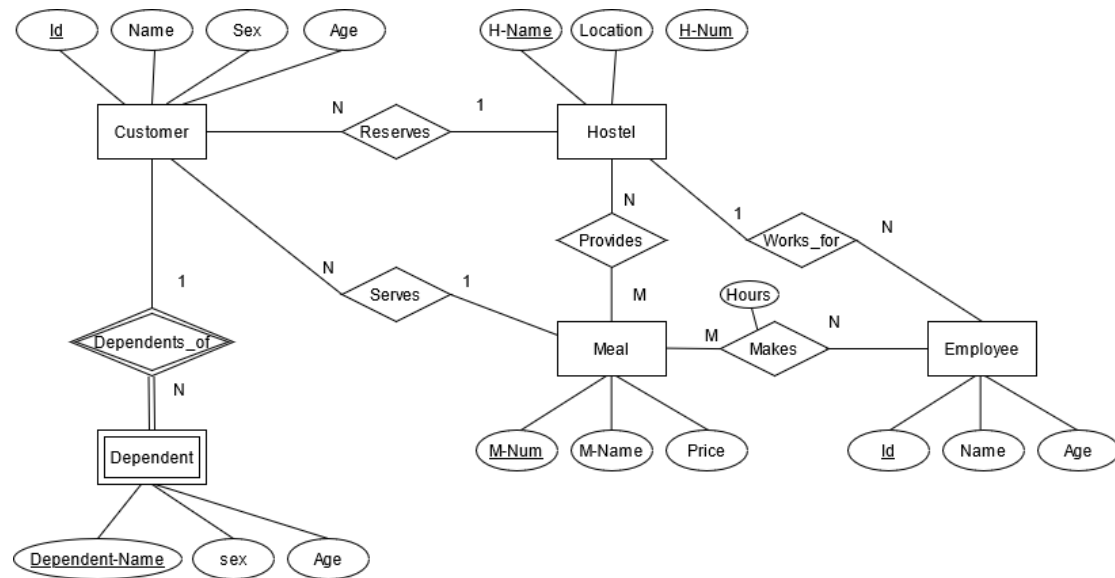## 1. ER diagram

2. Relationship description

- A customer reserves a hostel

- A hostel provides meals

- A meal serves a customer

- An employee works in a hostel

- An employee makes meals, which including production time.

- A customer has dependents

3. Entity description

(1) Customer

Attributes	Key attribute	Table
<u>Id</u>, Name, Sex, Age	<u>Id</u>	<table><tr><td>1</td><td>Id</td><td>Name</td><td>Sex</td><td>Age</td></tr><tr><td>2</td><td>2.44E+08</td><td>Suman Ha</td><td>Male</td><td>25</td></tr><tr><td>3</td><td>7.11E+08</td><td>Gianni Gc</td><td>Female</td><td>63</td></tr><tr><td>4</td><td>9.61E+08</td><td>Rocky Lo</td><td>Male</td><td>38</td></tr><tr><td>5</td><td>9.2E+08</td><td>Patrycja P</td><td>Male</td><td>54</td></tr><tr><td>6</td><td>1.68E+08</td><td>Moesha K</td><td>Female</td><td>27</td></tr><tr><td>7</td><td>3.74E+08</td><td>Kason Sto</td><td>Male</td><td>57</td></tr><tr><td>8</td><td>2.27E+08</td><td>Layla Dill</td><td>Female</td><td>61</td></tr><tr><td>9</td><td>6.32E+08</td><td>Leja Devli</td><td>Male</td><td>46</td></tr><tr><td>10</td><td>9.17E+08</td><td>Harry Jam</td><td>Male</td><td>34</td></tr><tr><td>11</td><td>5.83E+08</td><td>Cai Power</td><td>Female</td><td>68</td></tr></table>

(2) Hostel

Attributes	Key attribute	Table
<u>H-Name</u>, Location, <u>H-Num</u>	<u>H-Name</u>, <u>H-Num</u>	<table><tr><td>1</td><td>H-Num</td><td>Name</td><td>Location</td></tr><tr><td>2</td><td>1</td><td>Hostel1</td><td>Taipei</td></tr><tr><td>3</td><td>2</td><td>Hostel2</td><td>Kaohsiung</td></tr><tr><td>4</td><td>3</td><td>Hostel3</td><td>Taichung</td></tr><tr><td>5</td><td>4</td><td>Hostel4</td><td>Tainan</td></tr><tr><td>6</td><td>5</td><td>Hostel5</td><td>Taoyuan</td></tr><tr><td>7</td><td>6</td><td>Hostel6</td><td>Hualien</td></tr><tr><td>8</td><td>7</td><td>Hostel7</td><td>Taitung</td></tr><tr><td>9</td><td>8</td><td>Hostel8</td><td>Yilan</td></tr><tr><td>10</td><td>9</td><td>Hostel9</td><td>Nantou</td></tr><tr><td>11</td><td>10</td><td>Hostel10</td><td>Miaoli</td></tr></table>

(3) Meal

Attributes	Key attribute	Table
<u>M-Num</u>, M-Name, Price	<u>M-Num</u>	<table><tr><td>1</td><td>MNum</td><td>Name</td><td>Price</td></tr><tr><td>2</td><td>1</td><td>Meal1</td><td>300</td></tr><tr><td>3</td><td>2</td><td>Meal2</td><td>350</td></tr><tr><td>4</td><td>3</td><td>Meal3</td><td>400</td></tr><tr><td>5</td><td>4</td><td>Meal4</td><td>450</td></tr><tr><td>6</td><td>5</td><td>Meal5</td><td>500</td></tr><tr><td>7</td><td>6</td><td>Meal6</td><td>550</td></tr><tr><td>8</td><td>7</td><td>Meal7</td><td>600</td></tr><tr><td>9</td><td>8</td><td>Meal8</td><td>650</td></tr><tr><td>10</td><td>9</td><td>Meal9</td><td>700</td></tr><tr><td>11</td><td>10</td><td>Meal10</td><td>750</td></tr><tr><td>12</td><td>11</td><td>Meal1</td><td>300</td></tr><tr><td>13</td><td>12</td><td>Meal2</td><td>350</td></tr><tr><td>14</td><td>13</td><td>Meal3</td><td>400</td></tr><tr><td>15</td><td>14</td><td>Meal4</td><td>450</td></tr><tr><td>16</td><td>15</td><td>Meal5</td><td>500</td></tr><tr><td>17</td><td>16</td><td>Meal6</td><td>550</td></tr></table>

(4) Employee

Attributes	Key attribute	Table
Id, Name, Age	Id	<table><tr><td>1</td><td>Id</td><td>Name</td><td>Age</td></tr><tr><td>2</td><td>7.69E+08</td><td>Ottilie Cli</td><td>36</td></tr><tr><td>3</td><td>3.74E+08</td><td>Kaylan Hi</td><td>42</td></tr><tr><td>4</td><td>8.96E+08</td><td>Ilyas Johns</td><td>64</td></tr><tr><td>5</td><td>4.85E+08</td><td>Darrel Ma</td><td>34</td></tr><tr><td>6</td><td>9.54E+08</td><td>Abubakar</td><td>27</td></tr><tr><td>7</td><td>8.41E+08</td><td>Nataniel K</td><td>51</td></tr><tr><td>8</td><td>8.94E+08</td><td>Benjamin</td><td>29</td></tr><tr><td>9</td><td>8E+08</td><td>Tayyab Jel</td><td>53</td></tr><tr><td>10</td><td>6.69E+08</td><td>Lily-Ann I</td><td>46</td></tr><tr><td>11</td><td>1.31E+08</td><td>Anastazja</td><td>47</td></tr></table>

(5) Dependent

Attributes	Key attribute	Table
Dependent-Name, Sex, Age	Dependent-Name	<table><tr><td>1</td><td>CId</td><td>Dependent</td><td>Sex</td><td>Age</td></tr><tr><td>2</td><td>2.44E+08</td><td>Casper Or</td><td>Male</td><td>53</td></tr><tr><td>3</td><td>2.44E+08</td><td>Wesley M</td><td>Male</td><td>25</td></tr><tr><td>4</td><td>2.44E+08</td><td>Maleeha F</td><td>Female</td><td>12</td></tr><tr><td>5</td><td>7.11E+08</td><td>Osian Prit</td><td>Male</td><td>34</td></tr><tr><td>6</td><td>7.11E+08</td><td>Ria Frankl</td><td>Male</td><td>29</td></tr><tr><td>7</td><td>9.61E+08</td><td>Edan Estra</td><td>Female</td><td>46</td></tr><tr><td>8</td><td>9.61E+08</td><td>Nathanael</td><td>Male</td><td>52</td></tr><tr><td>9</td><td>9.61E+08</td><td>Samia Car</td><td>Female</td><td>17</td></tr><tr><td>10</td><td>9.2E+08</td><td>Tasnia Me</td><td>Female</td><td>65</td></tr><tr><td>11</td><td>9.2E+08</td><td>Mac Craw</td><td>Male</td><td>56</td></tr></table>

4. Relation Schema (After 3NF)

Customer

Id	Name	Sex	Age	H-Num	M-Num

Hostel

H-Num	H-Name	Location

Meal

M-Num	M-Name	Price

Employee

Id	Name	Age	H-Num

Dependent

C-Id	Dependent-Name	Sex	Age

Makes

E-id	M-Num	Hours

Provides

H-Num	H-Name	M-Num