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| Pathfinder Random Encounter Generator |
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9. **Project Description**

Pathfinder is a table-top role playing game developed by Paizo, similar to Dungeons and Dragons. Managing random monster encounters is one of the most time consuming, and difficult aspect of running the game, especially if the game master wants to maintain a certain level of variety among the encounters.

A good encounter should have the correct difficulty for the party, should contain monsters that are reasonable based on the current terrain, for example the generator should never return polar bears if the players are currently in an arid desert, and should contain a good mix of different monsters across many encounters. The game allows for this variety by allowing the game master to mix different monsters to generate an encounter up to a difficulty threshold. Some monsters can also have class levels, similar to the players, which could be added if time allows.

Our initial implementation should include a graphical interface that will handle the query creation and displaying of the encounter. The database should contain a table of monsters, a table of monster types, and a table of traits common to all monsters. Since monsters share many of same properties, those values could be moved into other tables or relations if it makes sense to do so. For the initial database, it will contain the three tables, and a series of functions that will help us build a valid encounter. The only input from the user should be encounter level, terrain type, and preferred monster type.

The rest of this paper is as follows. Section II discusses the creation of the database itself including the ER diagram and Schema of the database. Section III examines the code to populate the database with the monsters. Section IV showcases a few sample queries and the outputs of the query. Section V and VI cover the GoLang code used the implement the database as well as screenshots of the interface. Section VII contains information regarding changes to the project and future work that would be implemented. Finally the paper concludes with a discussion of what each group member contributed to the project as well as what the group has learnt throughout this project.

Pathfinder Role Playing Game is released under the Open Gaming License (OGL).

1. **Database Implementation**

The database implementation for the Pathfinder Random Encounter Generator revolves around the three tables; Monsters, Types, Attacks. The largest of these tables is the Monsters table. The monsters table contains all relevant information regarding the monsters that can appear in the world. The type table gives information regarding the how much health specific monsters types have and the attacks table contains a list of different attack types present by monsters and the damage that they do based on the size of the creature

**II.1 Tables**

As described above the schema for this database contains three main tables with two relationships stemming from the central monster table to the other tables in the database. The monsters table has many different attributes that are a part of it and the most pertinent will be described to give a better understanding of what the attribute covers. The Monster table schema is shown below.

-- -----------------------------------------------------

-- Table `PathfinderEncounter`.`Monster`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `PathfinderEncounter`.`Monster` (

`idMonster` INT NOT NULL,

`Name` VARCHAR(45) NOT NULL,

`CR` INT NOT NULL,

`Alignment` VARCHAR(20) NOT NULL,

`Size` INT NOT NULL,

`Class` VARCHAR(25) NULL,

`TypeName` VARCHAR(45) NOT NULL,

`Initiative` INT NOT NULL,

`Armor` INT NULL,

`Shield` INT NULL,

`Deflection` INT NULL,

`SizeAC` INT NULL,

`NaturalArmor` INT NULL,

`Dodge` INT NULL,

`MiscAC` INT NULL,

`HitDie` INT NOT NULL,

`Fort` INT NOT NULL,

`Reflex` INT NOT NULL,

`Will` INT NOT NULL,

`BaseSpeed` INT NOT NULL,

`Space` INT NOT NULL,

`Reach` INT NULL,

`Spell-Like Abilities` VARCHAR(1500) NULL,

`Spells` VARCHAR(1500) NULL,

`Str` INT NULL,

`Dex` INT NULL,

`Con` INT NULL,

`Inte` INT NULL,

`Wis` INT NULL,

`Cha` INT NULL,

`BaseAttack` INT NOT NULL,

`CMB` VARCHAR(45) NULL,

`CMD` VARCHAR(45) NULL,

`Feats` VARCHAR(1500) NULL,

`Skills` VARCHAR(1500) NULL,

`Languages` VARCHAR(200) NULL,

`Special Attacks` VARCHAR(1500) NULL,

`Environment` VARCHAR(45) NOT NULL,

`Attack1` VARCHAR(45) NULL,

`Attack2` VARCHAR(45) NULL,

`Attack3` VARCHAR(45) NULL,

`Attack4` VARCHAR(45) NULL,

`Attack5` VARCHAR(45) NULL,

PRIMARY KEY (`idMonster`),

ENGINE = InnoDB;

A number corresponding to each monster is used as the primary key. While the monster name looks as though it could have been the primary key there are situations where this would not be allowed. The main scenario is that a monster can have additional attributes added to in the form of a class. The class is rarely used for monsters as the main purpose of classes are for player characters, but the addition of a class to a monster changes the monsters statistics and in essence creates a new monster but the name is the same and thus would not be unique in the table.

The most pertinent attributes for the monster are the monster name which gives the user knowledge on the monster, the challenge rating or CR of the monster which determines how tough a monster is to fight, the monster type which determines many attributes of the monster including attack types and hit die size, and finally the environment in which the monster is found. The CR, type, and environment are used for database queries and thus come as no surprise as to why these are considered the most important statistics of the monster. If a game master is not looking for a specific monster to have the adventuring party encounter, the Challenge Rating, type, and Environment are the limiters that determine what would actually appear before the group.

The type is an important factor of the monster as evidenced previously and each monster type has some factors about them that are particular to the monster type. The item that always holds across all monsters of a type is the size of the hit die. The Hit die for a monster is a way of calculating the health points of a monster and is monitored by a certain number of die of a specific size. The Monster table contains the HitDie attribute which shows how many die are used in the monsters health, and the Type table contains the size of the hit die. Thus a complete monster would have health equal to “Monster.HitDie”d”Type.HitDie”, which translates out to rolling a die with Type.HitDie sides, Monster.HitDie times and adding the values. The Type table is shown below.

-- -----------------------------------------------------

-- Table `PathfinderEncounter`.`Type`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `PathfinderEncounter`.`Type` (

`idType` INT NOT NULL,

`TypeName` VARCHAR(45) NOT NULL,

`HitDie` INT NOT NULL,

PRIMARY KEY (`idType`))

ENGINE = InnoDB;

The final table in the database is the attacks table. Different attack types follow similar damage values and all damage values are based off adjusting a value up or down by the size of the monster. For example, a medium-sized monster using a bit attack would deal 1d6 points of damage on an attack. If that monster increases in size to Large, the strength of the bite increases to 1d8. The attributes of this table are the id of the attacks, the attack name, and the different damage values for the attack based on the size of the monster.

-- -----------------------------------------------------

-- Table `PathfinderEncounter`.`Attacks`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `PathfinderEncounter`.`Attacks` (

`idAttacks` INT NOT NULL,

`AttackName` VARCHAR(45) NULL,

`-4` VARCHAR(45) NOT NULL,

`-3` VARCHAR(45) NOT NULL,

`-2` VARCHAR(45) NOT NULL,

`-1` VARCHAR(45) NOT NULL,

`0` VARCHAR(45) NOT NULL,

`1` VARCHAR(45) NOT NULL,

`2` VARCHAR(45) NOT NULL,

`3` VARCHAR(45) NOT NULL,

`4` VARCHAR(45) NOT NULL,

PRIMARY KEY (`idAttacks`),

UNIQUE INDEX `Attack Name\_UNIQUE` (`AttackName` ASC),

CONSTRAINT `Size`

FOREIGN KEY ()

REFERENCES `PathfinderEncounter`.`Monster` ()

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `Str`

FOREIGN KEY ()

REFERENCES `PathfinderEncounter`.`Monster` ()

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `Dex`

FOREIGN KEY ()

REFERENCES `PathfinderEncounter`.`Monster` ()

ON DELETE NO ACTION

ON UPDATE NO ACTION)

ENGINE = InnoDB;

**II.2 Relationships**

Beyond the three tables, the database contains two relationships. These relationships are Monster\_has\_Attacks and Monster\_has\_Type. These relationships compare values of Monster to the Attacks and Type tables in order to generate complete information about the monster. The Monster\_has\_Attacks relationship looks at the ID of the monster to determine which attack IDs belong to that monster and also takes the monsters size to locate from where on the table to pull the damage value.

-- -----------------------------------------------------

-- Table `PathfinderEncounter`.`Monster\_has\_Attacks`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `PathfinderEncounter`.`Monster\_has\_Attacks` (

`Monster\_idMonster` INT NOT NULL,

`Attacks\_idAttacks` INT NOT NULL,

PRIMARY KEY (`Monster\_idMonster`, `Attacks\_idAttacks`),

INDEX `fk\_Monster\_has\_Attacks\_Attacks1\_idx` (`Attacks\_idAttacks` ASC),

INDEX `fk\_Monster\_has\_Attacks\_Monster1\_idx` (`Monster\_idMonster` ASC),

CONSTRAINT `fk\_Monster\_has\_Attacks\_Monster1`

FOREIGN KEY (`Monster\_idMonster`)

REFERENCES `PathfinderEncounter`.`Monster` (`idMonster`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `fk\_Monster\_has\_Attacks\_Attacks1`

FOREIGN KEY (`Attacks\_idAttacks`)

REFERENCES `PathfinderEncounter`.`Attacks` (`idAttacks`)

ON DELETE NO ACTION

ON UPDATE NO ACTION)

ENGINE = InnoDB;

The Monster\_has\_Type relationship pulls the monster ID to determine the appropriate hit die of the monster based on the id of the type.

-- -----------------------------------------------------

-- Table `PathfinderEncounter`.`Monster\_has\_Type`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `PathfinderEncounter`.`Monster\_has\_Type` (

`Monster\_idMonster` INT NOT NULL,

`Type\_idType` INT NOT NULL,

PRIMARY KEY (`Monster\_idMonster`, `Type\_idType`),

INDEX `fk\_Monster\_has\_Type\_Type1\_idx` (`Type\_idType` ASC),

INDEX `fk\_Monster\_has\_Type\_Monster1\_idx` (`Monster\_idMonster` ASC),

CONSTRAINT `fk\_Monster\_has\_Type\_Monster1`

FOREIGN KEY (`Monster\_idMonster`)

REFERENCES `PathfinderEncounter`.`Monster` (`idMonster`)

ON DELETE NO ACTION

ON UPDATE NO ACTION,

CONSTRAINT `fk\_Monster\_has\_Type\_Type1`

FOREIGN KEY (`Type\_idType`)

REFERENCES `PathfinderEncounter`.`Type` (`idType`)

ON DELETE NO ACTION

ON UPDATE NO ACTION)

ENGINE = InnoDB;

**II.3 Triggers**

Beyond the tables in the schema there are multiple triggers created for the different table to catch errors that could occur when updating, inserting, or deleting from the tables. The Monsters table has two different types of triggers; before insert and before update. Both of these have the same checks, but need to be applied both before data is entered into the database and edited in the database to ensure the data is within the bounds required. If the program finds any values outside of the appropriate scales an error message is flagged pointing the user to what problem occurred so that they may address the issue. The different error checks that occur in these two triggers are as follows. First the size is checked as the size needs to be a value from -4 to 4; any other values are outside of the range and cannot be assigned to the size. There are 9 alignments present in the game thus if an alignment is entered that does not fit the 9 alignments, it will raise an error. While the CR of monsters can have fit on a wide range of values, for the purpose of this database we are working with a subset where the CR is from 1 to 10 and thus the trigger checks to see if the CR is within those values. Armor values besides size and dexterity cannot be a negative number and thus there is a check to see if the armor, shield, deflection, natural armor, dodge, or miscAC are negative. A creature cannot have 0 Hit die nor can they have a negative speed, space, or reach and these values are examined. The monsters base stats (Str, Dex, Con, Inte, Wis, Cha) cannot go below 0 in the game and are checked. Lastly if a monster is updated or inserted that has an attack type not present in the attacks table, an error is raised to contact the database manage in order to have that attack type registered.

DELIMITER $$

USE `PathfinderEncounter`$$

CREATE DEFINER = DatabaseManager TRIGGER `PathfinderEncounter`.`Monster\_BEFORE\_INSERT` BEFORE INSERT ON `Monster`

FOR EACH ROW

Begin

DECLARE msg VARCHAR(255);

DECLARE found\_it INT;

IF NEW.size < -4 OR NEW.size > 4 THEN

set msg = "Error: Size categories must be an integer between -4 and 4";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

IF NEW.alignment <> 'LG' OR NEW.alignment <> 'NG' OR NEW.alignment <> 'CG' OR NEW.alignment <> 'LN' OR NEW.alignment <> 'N' OR NEW.alignment <> 'CN' OR NEW.alignment <> 'LE' OR NEW.alignment <> 'NE' OR NEW.alignment <> 'CE' Then

set msg = "Error: Invalid input for alignment";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

IF NEW.CR < 1 OR NEW.CR > 10 THEN

set msg = "Error: Size categories must be an integer between -4 and 4";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

IF NEW.Armor < 0 OR NEW.Shield < 0 OR New.Deflection < 0 OR NEW.NaturalArmor < 0 OR NEW.Dodge < 0 OR New.MiscAC < 0 Then

set msg = "Error: All Armor Class values must be greater than 0";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

IF NEW.HitDie < 0 OR NEW.BaseSpeed < 0 OR New.Space < 0 OR NEW.Reach < 0 Then

set msg = "Error: Hit Die, Speed, Space, and Reach must be nonnegative";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

IF NEW.STR < 0 OR NEW.DEX < 0 OR New.CON < 0 OR NEW.INTE < 0 OR New.WIS < 0 OR NEW.CHA < 0 Then

set msg = "Error: Stats must be nonnegative";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Attacks.AttackName

WHERE Attack1 = NEW.Attack1;

IF found\_it = 0 THEN

set msg = "Error: Attack type not in database. Contact Database Manager for Assistance";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Attacks.AttackName

WHERE Attack2 = NEW.Attack2;

IF found\_it = 0 THEN

set msg = "Error: Attack type not in database. Contact Database Manager for Assistance";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Attacks.AttackName

WHERE Attack3 = NEW.Attack3;

IF found\_it = 0 THEN

set msg = "Error: Attack type not in database. Contact Database Manager for Assistance";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Attacks.AttackName

WHERE Attack4 = NEW.Attack4;

IF found\_it = 0 THEN

set msg = "Error: Attack type not in database. Contact Database Manager for Assistance";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Attacks.AttackName

WHERE Attack5 = NEW.Attack5;

IF found\_it = 0 THEN

set msg = "Error: Attack type not in database. Contact Database Manager for Assistance";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

END;$$

USE `PathfinderEncounter`$$

CREATE DEFINER = DatabaseManager TRIGGER `PathfinderEncounter`.`Monster\_BEFORE\_UPDATE` BEFORE UPDATE ON `Monster` FOR EACH ROW

Begin

DECLARE msg VARCHAR(255);

DECLARE found\_it INT;

IF NEW.size < -4 OR NEW.size > 4 THEN

set msg = "Error: Size categories must be an integer between -4 and 4";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

IF NEW.alignment <> 'LG' OR NEW.alignment <> 'NG' OR NEW.alignment <> 'CG' OR NEW.alignment <> 'LN' OR NEW.alignment <> 'N' OR NEW.alignment <> 'CN' OR NEW.alignment <> 'LE' OR NEW.alignment <> 'NE' OR NEW.alignment <> 'CE' Then

set msg = "Error: Invalid input for alignment";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

IF NEW.CR < 1 OR NEW.CR > 10 THEN

set msg = "Error: Size categories must be an integer between -4 and 4";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

IF NEW.Armor < 0 OR NEW.Shield < 0 OR New.Deflection < 0 OR NEW.NaturalArmor < 0 OR NEW.Dodge < 0 OR New.MiscAC < 0 Then

set msg = "Error: All Armor Class values must be greater than 0";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

IF NEW.HitDie < 0 OR NEW.BaseSpeed < 0 OR New.Space < 0 OR NEW.Reach < 0 Then

set msg = "Error: Hit Die, Speed, Space, and Reach must be nonnegative";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

IF NEW.STR < 0 OR NEW.DEX < 0 OR New.CON < 0 OR NEW.INTE < 0 OR New.WIS < 0 OR NEW.CHA < 0 Then

set msg = "Error: Stats must be nonnegative";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Attacks.AttackName

WHERE Attack1 = NEW.Attack1;

IF found\_it = 0 THEN

set msg = "Error: Attack type not in database. Contact Database Manager for Assistance";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Attacks.AttackName

WHERE Attack2 = NEW.Attack2;

IF found\_it = 0 THEN

set msg = "Error: Attack type not in database. Contact Database Manager for Assistance";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Attacks.AttackName

WHERE Attack3 = NEW.Attack3;

IF found\_it = 0 THEN

set msg = "Error: Attack type not in database. Contact Database Manager for Assistance";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Attacks.AttackName

WHERE Attack4 = NEW.Attack4;

IF found\_it = 0 THEN

set msg = "Error: Attack type not in database. Contact Database Manager for Assistance";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Attacks.AttackName

WHERE Attack5 = NEW.Attack5;

IF found\_it = 0 THEN

set msg = "Error: Attack type not in database. Contact Database Manager for Assistance";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

END;$$

Another trigger is set on the Attacks table before data can be deleted. The trigger checks to see if that attack type is in use by a monster in the database. If a monster currently in the database has that attack type than an error is raised and the attack cannot be deleted.

USE `PathfinderEncounter`$$

CREATE DEFINER = CURRENT\_USER TRIGGER `PathfinderEncounter`.`Attacks\_BEFORE\_DELETE` BEFORE DELETE ON `Attacks` FOR EACH ROW

begin

DECLARE msg VARCHAR(255);

DECLARE found\_it INT;

SELECT COUNT(1) INTO found\_it FROM Monster.Attack1

WHERE AttackName = NEW.AttackName;

IF found\_it = 0 THEN

set msg = "Error: Monster in database has attack and must be deleted before attack can be removed";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Monster.Attack2

WHERE AttackName = NEW.AttackName;

IF found\_it = 0 THEN

set msg = "Error: Monster in database has attack and must be deleted before attack can be removed";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Monster.Attack3

WHERE AttackName = NEW.AttackName;

IF found\_it = 0 THEN

set msg = "Error: Monster in database has attack and must be deleted before attack can be removed";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Monster.Attack4

WHERE AttackName = NEW.AttackName;

IF found\_it = 0 THEN

set msg = "Error: Monster in database has attack and must be deleted before attack can be removed";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

SELECT COUNT(1) INTO found\_it FROM Monster.Attack5

WHERE AttackName = NEW.AttackName;

IF found\_it = 0 THEN

set msg = "Error: Monster in database has attack and must be deleted before attack can be removed";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

End; $$

The last two triggers occur on the Type table. The first occurs before an update or insert can occur on the table. The size of the Hit Die for a monster cannot be less than 1 or that would cause a creature to have no health points, thus there is a check to ensure that the HitDie attribute is at least 1. The other trigger checks before a value is deleted from the Type table and looks to see if a monster currently in the database is of that type. A type cannot be deleted if a monster currently in the database has that type.

USE `PathfinderEncounter`$$

CREATE DEFINER = CURRENT\_USER TRIGGER `PathfinderEncounter`.`Type\_BEFORE\_INSERT` BEFORE INSERT ON `Type` FOR EACH ROW

Begin

DECLARE msg VARCHAR(255);

IF NEW.HitDie < 1 THEN

set msg = "Error: Size of Hit Die must be greater than 0";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

END;

$$

USE `PathfinderEncounter`$$

CREATE DEFINER = CURRENT\_USER TRIGGER `PathfinderEncounter`.`Type\_BEFORE\_Update` BEFORE UPDATE ON `Type` FOR EACH ROW

Begin

DECLARE msg VARCHAR(255);

IF NEW.HitDie < 1 THEN

set msg = "Error: Size of Hit Die must be greater than 0";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

END;

$$

USE `PathfinderEncounter`$$

CREATE DEFINER = CURRENT\_USER TRIGGER `PathfinderEncounter`.`Type\_BEFORE\_DELETE` BEFORE DELETE ON `Type` FOR EACH ROW

begin

DECLARE msg VARCHAR(255);

DECLARE found\_it INT;

SELECT COUNT(1) INTO found\_it FROM Monster.TypeName

WHERE TypeName = NEW.TypeName;

IF found\_it = 0 THEN

set msg = "Error: Monster in database has type and must be deleted before type can be removed";

SIGNAL SQLSTATE '45000' SET MESSAGE\_TEXT = msg;

END IF;

End;$$

**II.4 Users**

The database also gives certain permissions to different users in the database. The database as it stand contains three different users; DatabaseManager, Engineer, and User. The DatabaseManager is the owner of the database and thus is given all privileges. The Engineer can select, insert, trigger, update, and delete on tables as well as execute a routine. The User can only select on table.

DELIMITER ;

Flush Privileges;

CREATE USER 'DatabaseManager' IDENTIFIED BY 'database';

GRANT ALL PRIVILEGES ON `PathfinderEncounter`.\* TO 'DatabaseManager';

CREATE USER 'User';

GRANT SELECT ON TABLE `PathfinderEncounter`.\* TO 'User';

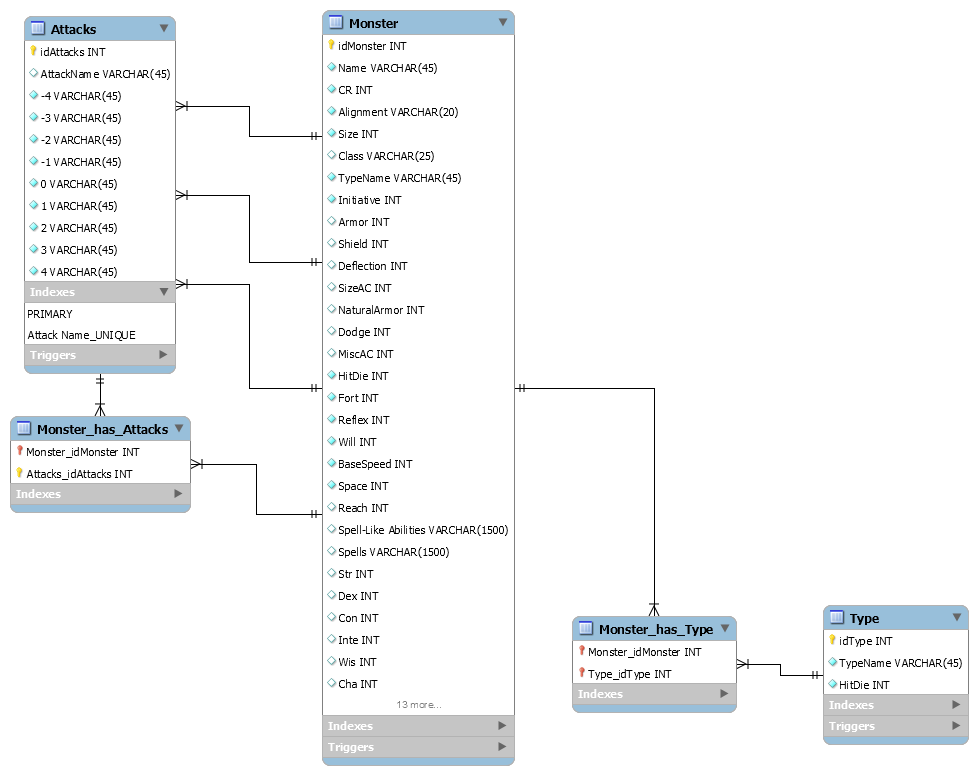
CREATE USER 'Engineer';

GRANT SELECT, INSERT, TRIGGER, UPDATE, DELETE ON TABLE `PathfinderEncounter`.\* TO 'Engineer';

GRANT EXECUTE ON ROUTINE `PathfinderEncounter`.\* TO 'Engineer';

**II.5 ER Diagram**

The ER diagram shows the tables and relationships used in this database.

****

1. **DDLs (Create Table Constructs)**

In order to test the database reasonably, a small test dataset of monsters was used. We used 4 total monster types (Plant, Animal, Undead, and Magical Beast), and 10 monsters inside of each type for 40 total monsters. Each of the 10 monsters in each type was a different CR value from 1 to 10. The Inserts are given below.

-- -----------------------------------------------------

-- Data for table `PathfinderEncounter`.`Monster`

-- -----------------------------------------------------

START TRANSACTION;

USE `PathfinderEncounter`;

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (1, 'Camel', 1, 'N', 1, '', 'Animal', 3, , , , -1, 1, , , 2, 5, 6, 0, 50, 10, 5, '', '', 18, 16, 14, 2, 11, 4, 1, '6', '19 (23 vs. trip)', 'Endurance', 'Perception +5', '', 'Spit', 'Desert', 'Bite ', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (2, 'Alligator', 2, 'N', 0, '', 'Animal', 1, , , , , 4, , , 3, 6, 4, 2, 20, 5, 5, '', '', 19, 12, 17, 1, 12, 2, 2, '6 (10 grapple)', '17 (21 vs trip)', 'Skill focus (Perception). Skill Focus (Stealth)', 'Perception +8. Stealth +9 (17 in water). +8 Swim', '', 'Hold Breath. Death Roll. Sprint. Swim 30', 'River. Marsh', 'Bite ', 'Tail Slap', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (3, 'Lion', 3, 'N', 1, '', 'Animal', 7, , , , -1, 3, , , 5, 6, 7, 2, 40, 10, 5, '', '', 21, 17, 15, 2, 12, 6, 3, '9 (13 grapple)', '22 (26 vs. trip)', 'Improved Initiative. Run. Skill Focus (Perception)', 'Acrobatics +11. Perception +9. Stealth +8 (12 undergrowth)', '', 'Pounch. Rake', 'Plains', 'Bite ', 'Claw', 'Claw', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (4, 'Dire Boar', 4, 'N', 1, '', 'Animal', 4, , , , -1, 6, , , 5, 7, 4, 2, 40, 10, 5, '', '', 23, 10, 17, 2, 13, 8, 3, '10', '20', 'Improved Initiative. Skill Focus (Perception). Toughness', 'Perception 12', '', 'Ferocity', 'Forest', 'Gore', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (5, 'Hippopotamus', 5, 'N', 1, '', 'Animal', 4, , , , -1, 8, , , 7, 8, 5, 3, 40, 10, 5, '', '', 19, 10, 16, 2, 13, 5, 5, '10', '20 (24 vs. trip)', 'Endurance. Improved Initiative. Power Attack. Skill Focus (Perception)', 'Perception +8. Stealth +1 (11 underwater). Swim +11', '', 'Hold Breath. Sweat. Capsize. Trample. Swim 30', 'River', 'Bite ', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (6, 'Ankylosaurus', 6, 'N', 2, '', 'Animal', 0, , , , -2, 14, , , 10, 12, 7, 4, 30, 15, 15, '', '', 27, 10, 17, 2, 13, 8, 7, '17', '27 (27 vs. trip)', 'Great Fortitude. Improved Bull Rush. Improved Overrun. Power Attack. Weapon Focus (Tail)', 'Perception +14', '', 'Stun', 'Forest. Plains', 'Tail Slap', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (7, 'Dire bear', 7, 'N', 1, '', 'Animal', 5, , , , -1, 8, , , 10, 12, 8, 4, 40, 10, 5, '', '', 25, 13, 21, 2, 12, 10, 7, '15 (19 grapple)', '26 (30 vs trip)', 'Endurance. Improved Initiative. Iron Will. Run. Skill Focus (Perception)', 'Perception +12. Swim +19', '', 'Grab', 'Forest', 'Claw', 'Claw', 'Bite', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (8, 'giant octopus', 8, 'N', 1, '', 'Animal', 6, , , , -1, 7, , , 12, 11, 12, 7, 20, 10, 10, '', '', 20, 15, 17, 2, 12, 3, 9, '15 (19 grapple)', '27 (can\'t be tripped)', 'Combat Reflexes. Improved Initiative. Iron Will. Lightning Reflexes. Multiattack. Skill Focus (Stealth). Stealthy', 'Escape Artist +18. Perception +8. Stealth +18. Swim +13', '', 'Poison. Constrict. Grab', 'Ocean', 'Bite ', 'Tentacles', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (9, 'dire shark', 9, 'N', 3, '', 'Animal', 6, , , , -4, 15, , , 15, 14, 13, 8, 60, 20, 20, '', '', 30, 15, 17, 1, 12, 10, 11, '25 (29 grapple)', '37', 'Bleeding Critical. Critical Focus. Great Fortitude. Improved Critical (Bite). Improved Initiative. Iron Will. Lightning Reflexes. Skill Focus (Perception)', 'Perception +25. Swim +18', '', 'Blindsense 30ft. Keen Scent. Swallow Whole. Grab', 'Ocean', 'Bite ', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (10, 'whale', 10, 'N', 3, '', 'Animal', 2, , , , -4, 18, , , 15, 17, 7, 7, 40, 20, 20, '', '', 38, 6, 23, 2, 11, 5, 11, '29', '37 (Can\'t be Tripped)', 'Diehard. Endurance. Great Fortitude. Improved Bull rush. Improved Initiative. Iron will. Power Attack. Skill Focus (Perception)', 'Perception +23. Swim +30', '', 'Hold Breath. Capsize', 'Ocean', 'Tail Slap', 'Bite', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (11, 'fungal lizardfolk', 1, 'N', 0, '', 'Plant', -1, , 2, , , 3, , , 2, 4, -1, 0, 30, 5, 5, '', '', 12, 8, 12, 8, 10, 10, 1, '2', '11', 'Multiattack', 'Acrobatics +1. Perception +1. Swim +8', 'Draconic. Sylvan', 'Plant Traits. Swim 15. Hold Breath. Poisonous Blood. Fungal Metabolism. Rejuvenation. create spawn. poison spore cloud', 'Marshes', 'Club', 'Bite', 'Claw', 'Claw', 'Bite');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (12, 'yellow muskcreeper', 2, 'N', 0, '', 'Plant', 2, , , , , 2, , , 3, 6, 3, 1, 5, 5, 10, '', '', 17, 15, 16, -, 11, 8, 2, '5', '17(can\'t be tripped)', '', '', '', 'Plant Traits. create yellow musk zombie. pollen spray', 'forest. underground', 'Tendril', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (13, 'assassin vine', 3, 'N', 1, '', 'Plant', 0, , , , -1, 6, , , 4, 7, 1, 2, 5, 10, 10, '', '', 20, 10, 16, -, 13, 9, 3, '9 (13 grapple)', '19 (can\'t be tripped)', '', '', '', 'Plant Traits. Immune electricity. Resist Cold 10 and Fire 10. Blindsight 30ft. low-light vision. constrict. grab. camouflage. Entangle', 'Forest', 'Slam', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (14, 'calathar', 4, 'N', -1, '', 'Plant', 8, , , , 1, 1, , , 6, 6, 6, 4, 20, 5, 5, '', '', 14, 19, 14, 6, 15, 12, 4, '5', '19 (21 vs. trip)', 'Blind-Fight. Combat Reflexes. Improved Initiative', 'Stealth +17', 'Sylvan (Cannot Speak)', 'Plant Traits. Immune Cold. Cold Healing. darkvision 30ft. low-light vision. scent. fire vulnerability. seed spray. mold mulch', 'Forest', 'Flower', 'Tendril', 'Tendril', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (15, 'basirond', 5, 'N', 0, '', 'Plant', 1, , , , , 7, , , 7, 8, 3, 2, 20, 5, 5, '', '', 20, 13, 16, -, 11, 1, 5, '10', '21 (25 vs. trip)', '', '', '', 'Plant Traits. Immune Cold. cold lethargy. low-light vision. low-light vision. tremorsense. Spores. Hallucination Cloud', 'underground', 'Slam', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (16, 'mi-go', 6, 'NE', 0, '', 'Plant', 5, , , , , 4, 1, , 7, 10, 7, 4, 30, 5, 5, '', '', 16, 20, 21, 25, 14, 15, 5, '8 (12 grapple)', '24 (32 vs. trip)', 'Combat Reflexes. Deceitful. Dodge. Weapon Finesse', 'Bluff +18. Disable Device +12. Disguise +18. fly +9. Heal +9. Knowledge (arcana. geography) +14. Perception +12. Spellcraft +14. Stealth +15', 'Akio. Common. Mi-go', 'Plant Traits. Immune Cold. DR 5/Slashing. Resist Electricity 10 and Fire 10. Fly 50. blindsight 30ft. low-light vision. Evisceration. grab. sneak attack +2d6. deceptive. item creation. no breth. starflight', 'Any', 'Claw', 'Claw', 'Claw', 'Claw', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (17, 'hangman tree', 7, 'NE', 2, '', 'Plant', 3, , , , -2, 13, , , 8, 12, 3, 5, 10, 15, 15, '', '', 25, 8, 23, 7, 12, 10, 6, '15 (19 grapple)', '24', 'Improved Initiative. Iron Will. Lightning Reflexes. Skill Focus (Perception)', 'Perception +11. Stealth -2', 'Sylvan', 'Plant Traits. SR 18. blindsight 60ft. vulnerable to electricity. grab. pull. constrict. hallucinatory spores. pull. strangle. swallow whole. vines', 'Forest', 'Vine', 'Vine', 'Vine', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (18, 'moonflower', 8, 'N', 2, '', 'Plant', 4, , , , -2, 13, , , 11, 12, 3, 4, 20, 15, 15, '', '', 28, 10, 21, 5, 12, 17, 8, '19 (23 grapple)', '29 (can\'t be tripped)', 'Blind-Fight. Improved Initiative. Improved Sunder. Multiattack. Power Attack. Skill Focus (Stealth)', 'Perception +9. Stealth +4 (20 in thick vegetation)', 'telepathy (1 mile other moonflowers)', 'Plant Traits. Immune electricity. Resist Cold 10. vulnerable to fire. DR 10/slashing. darkvision 60ft. low-light vision. grab. light pulse. pod prison. telepathy. pod spawn', 'Any', 'Bite', 'Tentacle', 'Tentacle', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (19, 'boruta', 9, 'N', 0, '', 'Plant', 6, , , , , 10, 1, , 14, 12, 6, 7, 20, 5, 5, '(CL 7th. Concentration 10) Constant -- pass without trace. At will -- entangle (DC 14). 3/day -- command plants (DC17). 1/day -- Summon nature\'s ally V (1 shambling mount only)', '(CL 7th. concentration +10). 4th -- Spike stones (DC 17). 3rd -- call lightning (2. DC 16). plant growth. 2nd -- fog Cloud. soften earth and stone. tree shape. wood shape (DC 15). 1st -- calm animals. detect animals or plants. goodberry. magic fang. speak with animals. 0th -- create water. detect magic. detect poison. know direction. mending', 17, 15, 16, 13, 17, 16, 10, '13', '26', 'Combat Casting. Combat Reflexes. Dodge. Improved Initiative. Improved Iron Will. Mobility. Natural Spell', 'Perception +20. Stealth +19. Survival +17', 'Common. Sylvan', 'Plant Traits. Immune electricity. low-light vision. grounding curse. treespeech. wild shape. Electric Fortitude', 'Any', 'Claw', 'Claw', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (20, 'giant flytrap', 10, 'N', 2, '', 'Plant', 8, , , , -2, 10, , , 13, 17, 8, 5, 10, 15, 15, '', '', 25, 18, 25, 1, 12, 6, 9, '18 (22 grapple)', '32 (Can\'t be tripped)', 'Cleave. Great Fortitude. Improved Initiative. Power Attack. Skill Focus (Stealth). Vital Strike. Weapon Focus (bite)', 'Perception +10. Sealth +9 (17 in undergrowth)', '', '(Immune to mind-affecting effects. paralysis. poison. polymorph. sleep. stun). Resist Acid 20. low-light vision. tremorsense 60ft. grab. engulf', 'Swamp', 'Bite', 'Bite', 'Bite', 'Bite', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (21, 'Ghoul', 1, 'CE', 0, '', 'Undead', 2, , , , , 2, , , 2, 2, 2, 5, 30, 5, 5, '', '', 12, 15, -1, 13, 14, 14, 1, '2', '14', 'Weapon Finesse', 'Acrobatics +4. Climb +6. Perception +7. Stealth +7. Swim +3', 'Common', 'Channel Resistance +2. Undead Traits. Paralysis. Disease(Ghoul Fever)', 'Any Land', 'Bite', 'Claw', 'Claw', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (22, 'Draugr', 2, 'CE', 0, '', 'Undead', 0, 2, , , , 2, , , 3, 2, 1, 3, 30, 5, 5, '', '', 17, 10, -1, 8, 10, 13, 2, '5', '15', 'Power Attack. Toughness', 'Climb +9. Perception +6. Stealth +6. Swim +11', 'Common', 'Swim 30. Darkvision. DR 5/Bludgeoning or slashing. Undead Traits. Resist Fire 10. Nausea', 'Coastal', 'Great Axe', 'Slam', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (23, 'Shadow', 3, 'CE', 0, '', 'Undead', 2, , , 2, , , 1, , 3, 3, 3, 4, 40, 5, 5, '', '', -1, 14, -1, 6, 12, 15, 2, '4', '17', 'Dodge. Skill Focus (Perception)', 'Fly +11. Perception +8. Stealth +8 (+12 in dim light. +4 in bright light)', 'Common', 'Fly 40. Incorporeal. Undead Traits. Channel Resistance +2', 'Any', 'Incorporeal Touch', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (24, 'Attic Whisperer', 4, 'NE', 0, '', 'Undead', 8, , , , 1, 3, 1, , 6, 5, 6, 8, 20, 5, 5, '', '', 9, 19, -1, 14, 16, 17, 4, '2', '17', 'Dodge. Improved Initiative. Weapon Finesse', 'Bluff +9. Climb +8. Knowledge(History) +8 . Knowledge(local) +8. Perception +12. Stealth +17', 'Common(plus any 2d4 from victims)', 'Dark Vision. Steal Voice. Aura of Sobs. Steal Breath', 'Any', 'Bite', 'Touch', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (25, 'Crypt Thing', 5, 'NE', 0, '', 'Undead', 6, , , , , 6, 1, , 8, 4, 6, 8, 30, 5, 5, '(CL 8th; Concentration +10) 3/day—Quickened Dimension Door', '', 19, 14, -1, 13, 14, 15, 6, '10', '23', 'Alertness. Dodge. Improved Initiative. Lightning Reflexes', 'Bluff +6. Intimidate +13. Knowledge(arcana) +6. Knowledge (dungeoneering) +5. Knowledge (history) +3. Perception +15. Sense Motive +15. Stealth +9', 'Common', 'Dark Vision. Low-light Vision. Fear Aura)(10 ft. Frightened for 1d4 Rounds. Will DC 16 Negates). Channel Resistance +2. DR 10/bludgeoning or magic. Undead Traits. Teleporting Burst', 'underground', 'Claw', 'Claw', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (26, 'Phantom Lancer', 6, 'NE', 1, '', 'Undead', 6, 9, 2, , -1, , , , 9, 7, 5, 6, 40, 10, 10, '', '', 17, 15, -1, 7, 11, 18, 6, '10', '22', 'Dodge. Flyby Attack. Improved Initiative. Power Attack. Mobility', 'Perception +12. Stealth +10', 'Common', 'Armor Rider. Freeze. Dark Vision. Channel Resistance +4. Undead Traits. Trample', 'Any', 'Mwk Lance', 'Long Bow', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (27, 'Ghost', 7, 'CE', 0, 'Aristocrat 7', 'Undead', 5, , , 5, , , 1, , 7, 7, 5, 7, 30, 5, 5, '', '', -1, 12, -1, 10, 11, 20, 5, '5', '22', 'Dodge. Improved Initiative. Iron Will. Lightning Reflexes. Toughness.', 'Fly +9. Knowledge(histoy) +10. Knowledge(nobility) +10. Perception +18. Sense Motive +10. Stealth +9', 'Common', 'Dark Vision. Channel Resistance +4. Incorporeal. Rejuvenation. Undead Traits. Corrupting Touch. Frightful Moan.', 'Any', 'Touch', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (28, 'Bodak', 8, 'CE', 0, '', 'Undead', 6, , , , , 8, 1, , 10, 6, 5, 8, 20, 5, 5, '', '', 13, 15, -1, 6, 13, 16, 7, '8', '21', 'Dodge. Improved Initiative. Mobility . Toughness. Weapon Focus(slam)', 'Intimidate +11. Perception +14. Stealth +10', 'Common', 'Dark Vision. DR 10/Cold Iron. Immune Electricity. Undead Traits. Resist Acid 10. Resist Fire 10. Vulnerable to Sunlight. Death Gaze', 'Any', 'Slam', 'Slam', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (29, 'Vampire', 9, 'CE', 0, 'Sorcerer 8', 'Undead', 8, , , 2, , 6, 1, , 8, 13, 11, 12, 30, 5, 5, '(CL 8th; +7 Touch) 11/day – Grave Touch', '(CL 8th. +8 Ranged Touch) 4th (5/day) – Greater Invisibilty; 3rd(5/day) – Dispel Magic. Fireball(DC 21). Vampiric Touch; 2nd(8/day) – False Life. Invisibility. Scorching Ray. Web(DC 20); 1st(8/day) – Buring Hands(DC19). Chill Touch(DC 19). Disguise Self. Expedition Retreat. Mage Armor. Magic Missile; 0 – Acid Splash. Detect Magic. Light. Mage Hand. Mending. Message. open/close. Read Magic; Bloodline – Undead', 16, 18, -1, 14, 16, 26, 4, '7', '24', 'Alertness. Blind-Fight. Combat Casting. Combat Relexes. Dodge. Eschew Materials. Extend Spell. Improved Initiative. Lightning Reflexes. Silent Spell. Still Spell. Toughness. Weapon Finess', 'Bluff +27. Knowledge(arcana) +13. Knowledge(religion) +10. Perception +21. Sense Motive +13. Spellcraft +13. Stealth +12. Use Magic Device +19', 'Abyssal. Common. Draconic', 'Dark Vision. Channel Resistance +4. DR 10/Magic and Silver. Undead Traits. Resist Cold 10. Resist Electricity 10. Vampire Weaknesses. Blood Drain. Change Shape. Children of the Night. Create Spawn. Dominate. Energy Drain. Gaseous Form. Shadowless. Spider Climb', 'Any', 'Slam', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (30, 'Gholdako', 10, 'NE', 1, '', 'Undead', 0, , , , -1, 16, , , 15, 9, 5, 10, 30, 10, 10, '', '', 25, 10, -1, 10, 13, 19, 11, '19 (21 Bull Rush)', '29 (31 vs Bull Rush)', 'Awesome Blow. Cleave. Critical Focus. Great Cleave. Improved Bull Rush. Improved Critical(Claw). Power Attack. Weapon Focus(Claw)', 'Intimidate +22. Knowledge(history) +8. Perception +19. Sense Motive +11. Stealth +14', 'Giant', 'Dark Vision. Low-light Vision. Channel Resistance +3. DR 5/good. Undead Traits. Resist Cold 10. Resist Fire 10. Blinding Breath. Desease', 'Coastal', 'Bite', 'Claw', 'Claw', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (31, 'Clawbat', 1, 'N', -1, '', 'Magical Beast', 3, 1, , , 1, , , , 2, 3, 6, 2, 10, 5, 5, '', '', 7, 17, 10, 2, 14, 10, 2, '-1', '12', 'Flyby Attack. Weapon Finesse', 'Fly +5. Stealth +12', '', 'Blood Scent. Distration. bleed', 'hills', 'Bite', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (32, 'Blindheim', 2, 'N', -1, '', 'Magical Beast', 2, , , , 1, 2, 1, , 3, 5, 5, 2, 30, 5, 5, '', '', 13, 15, 15, 2, 12, 6, 3, '3', '16', 'Dodge. Skill Focus (Perception)', 'Acrobatics +6(+10 jump). Perception +9. Swim +9', '', 'Blinding Gaze. Immune Blindness', 'underground', 'Bite', 'Claw', 'Claw', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (33, 'Giant Eagle', 3, 'NG', 1, '', 'Magical Beast', 3, , , , -1, 3, , , 4, 5, 7, 3, 10, 10, 5, '', '', 18, 17, 12, 10, 15, 11, 4, '9', '22', 'Alertness. Flyby Attack', 'Fly +8. Perception +15. Sense Motive +4', 'Auran', 'Fly 80', 'mountains', 'Claw', 'Claw', 'Bite', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (34, 'Devilfish', 4, 'NE', 1, '', 'Magical Beast', 3, , , , -1, 5, , , 5, 7, 7, 2, 10, 10, 5, '', '', 17, 17, 16, 3, 12, 8, 5, '9 (13 grapple)', '22 (can\'t be tripped)', 'Cleave. Combat Reflexes. Power Attack', 'Escape Artist +5. Perception +5. Stealth +3. Swim +15', 'Abyssal. Aquan. Common', 'Swim 40. Poison. Savage Bite. Unholy Blood. Water Dependency', 'aquatic', 'Tentacles', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (35, 'Basilisk', 5, 'N', 0, '', 'Magical Beast', -1, , , , , 8, , , 7, 9, 4, 5, 20, 5, 5, '', '', 16, 8, 15, 2, 13, 11, 7, '10', '19 (31 vs trip)', 'Blind-Fight. Great Fortitude. Iron Will. Skill Focus(Perception)', 'Perception +10. Stealth +10', '', 'Gaze', 'any', 'Bite', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (36, 'Death Worm', 6, 'N', 1, '', 'Magical Beast', 1, , , , -1, 9, , , 8, 9, 7, 4, 20, 10, 5, '', '', 18, 13, 16, 3, 11, 5, 8, '13', '24', 'Cleave. Improved Overrun. Iron Will. Power Attack', 'Perception +11. Stealth -3 (+13 in deserts)', 'Terran', 'Corrosive Blood. Electrical Jolt. Poison. Venomous Skin', 'desert', 'Bite', 'Electric Jolt', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (37, 'Bulette', 7, 'N', 2, '', 'Magical Beast', 6, , , , -2, 12, , , 8, 11, 8, 5, 40, 15, 10, '', '', 23, 15, 20, 2, 13, 6, 8, '16', '28(32 vs trip)', 'Improved Initiative. Iron Will. Skill Focus(Perception). Weapon Focus(Bite)', 'Acrobatics +9(+17 Jumping) Perception +11', '', 'Leap. Savage Bite. Burrow 20', 'hills', 'Bite', 'Claw', 'Claw', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (38, 'Gnasher Lizard', 8, 'N', 1, '', 'Magical Beast', 7, , , , -1, 9, , , 10, 12, 8, 4, 30, 10, 5, '', '', 24, 16, 20, 2, 12, 10, 10, '18 (22 grapple)', '31(35 vs Trip)', 'Improved Initiative. Power Attack. Skill Focus(Perception). Vital Strike. Weapon Focus(bite)', 'Perception +16. Stealth +11', '', 'Vorpal Bite. Swallow Whole', 'forests', 'Bite', '', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (39, 'Dragon Horse', 9, 'NG', 1, '', 'Magical Beast', 7, , , , -1, 10, 1, , 10, 12, 10, 9, 60, 10, 10, '', '', 24, 17, 21, 16, 18, 21, 10, '18', '32(36 vs Trip)', 'Dodge. Flyby Attack. Improved Initiative. Iron Will. Mobility', 'Fly +18. Knowledge(planes) +13. Perception +17. Sense Motive +14. Survival +14', 'Auran. Common. Draconic. Telepathy', 'Know Alignment. Breath Weapon. Fly 120. Flying Charge. Shift Planes', 'any', 'Hoove', 'Hoove', '', '', '');

INSERT INTO `PathfinderEncounter`.`Monster` (`idMonster`, `Name`, `CR`, `Alignment`, `Size`, `Class`, `TypeName`, `Initiative`, `Armor`, `Shield`, `Deflection`, `SizeAC`, `NaturalArmor`, `Dodge`, `MiscAC`, `HitDie`, `Fort`, `Reflex`, `Will`, `BaseSpeed`, `Space`, `Reach`, `Spell-Like Abilities`, `Spells`, `Str`, `Dex`, `Con`, `Inte`, `Wis`, `Cha`, `BaseAttack`, `CMB`, `CMD`, `Feats`, `Skills`, `Languages`, `Special Attacks`, `Environment`, `Attack1`, `Attack2`, `Attack3`, `Attack4`, `Attack5`) VALUES (40, 'Water Orm', 10, 'N', 2, '', 'Magical Beast', 7, , , , -2, 13, , , 13, 13, 13, 7, 20, 15, 15(20 with bite), '', '', 26, 16, 21, 4, 13, 11, 13, '23(27 grapple)', '36(40 vs trip)', 'Improved Critical(bite). Improved Initiative. Improved Iron Will. Iron Will. Lightning Reflexes. Power Attack. Skill Focus(Stealth)', 'Perception +11. Stealth +14. Swim +16', 'Aquan', 'Elusive. Water Travel. Swallow Whole', 'lake', 'Bite', 'Tail Slap', '', '', '');

COMMIT;

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-- Data for table `PathfinderEncounter`.`Attacks`

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START TRANSACTION;

USE `PathfinderEncounter`;

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (1, 'Bite', '1', '1d2', '1d3', '1d4', '1d6', '1d8', '2d6', '2d8', '4d6');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (2, 'Tail Slap', '1', '1d2', '1d3', '1d4', '1d6', '1d8', '2d6', '2d8', '4d6');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (3, 'Claw', '0', '1', '1d2', '1d3', '1d4', '1d6', '1d8', '2d6', '2d8');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (4, 'Gore', '1', '1d2', '1d3', '1d4', '1d6', '1d8', '2d6', '2d8', '4d6');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (5, 'Tentacles', '0', '1', '1d2', '1d3', '1d4', '1d6', '1d8', '2d6', '2d8');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (6, 'Club', '1', '1d2', '1d3', '1d4', '1d6', '1d8', '2d6', '3d6', '4d6');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (7, 'Tendril', '0', '1', '1d2', '1d3', '1d4', '1d6', '1d8', '2d6', '2d8');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (8, 'Slam', '0', '1', '1d2', '1d3', '1d4', '1d6', '1d8', '2d6', '2d8');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (9, 'Flower', '1d2', '1d3', '1d4', '1d6', '2d4', '2d6', '3d6', '4d6', '6d6');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (10, 'Vine', '0', '0', '1', '1d2', '1d3', '1d4', '1d6', '1d8', '2d6');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (11, 'Great Axe', '1d4', '1d6', '1d8', '1d10', '1d12', '3d6', '4d6', '6d6', '8d6');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (12, 'Incorporeal Touch', '1', '1d2', '1d3', '1d4', '1d6', '1d8', '2d6', '3d6', '4d6');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (13, 'Touch', '2d6', '3d6', '4d6', '6d6', '7d6', '8d6', '12d6', '18d6', '27d6');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (14, 'Mwk Lance', '1d2', '1d3', '1d4', '1d6', '1d8', '2d6', '3d6', '4d6', '6d6');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (15, 'Long Bow', '1d2', '1d3', '1d4', '1d6', '1d8', '2d6', '3d6', '4d6', '6d6');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (16, 'Electric Jolt', '1d6', '1d8', '1d10', '2d6', '3d6', '4d6', '6d6', '8d6', '12d6');

INSERT INTO `PathfinderEncounter`.`Attacks` (`idAttacks`, `AttackName`, `-4`, `-3`, `-2`, `-1`, `0`, `1`, `2`, `3`, `4`) VALUES (17, 'Hoove', '0', '1', '1d2', '1d3', '1d4', '1d6', '1d8', '2d6', '2d8');

COMMIT;

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-- Data for table `PathfinderEncounter`.`Type`

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START TRANSACTION;

USE `PathfinderEncounter`;

INSERT INTO `PathfinderEncounter`.`Type` (`idType`, `TypeName`, `HitDie`) VALUES (1, 'Animal', 8);

INSERT INTO `PathfinderEncounter`.`Type` (`idType`, `TypeName`, `HitDie`) VALUES (2, 'Plant', 8);

INSERT INTO `PathfinderEncounter`.`Type` (`idType`, `TypeName`, `HitDie`) VALUES (3, 'Undead', 8);

INSERT INTO `PathfinderEncounter`.`Type` (`idType`, `TypeName`, `HitDie`) VALUES (4, 'Magical Beast', 10);

COMMIT;

1. **GoLang Code**
2. **Screenshots and Sample Queries**
3. **Logs for Future Extensions, Features left out**

The project as it stands is a barebones monster generator. There are a lot more intricacies that go into the creation of monsters in the Pathfinder RPG. Future Extensions of this project will incorporate special attacks into their own table with complete descriptions of the special attacks to give the game master much more information regarding how the monster can act. Also in future extensions, similar aspects will be used for both spells and spell-like abilities.

Future Extensions will also have a lot more dependencies on attributes that allow more customization of monsters. Currently the monsters that will be generated by this are stock monsters, however allowing dependencies in the future allows this to become richer. Such as the armor class of the monster combines many different traits that are outlined in the table and changing the type of armor that a monster has equipped will change their armor class, however the base generator created does not allow for the system to change the monsters armor to different types.

Templates were left out in this database due to the amount of dependencies needed to make templates work. Since templates change a lot of the attributes of the monster, every other attribute that would have a dependency with an altered attribute would also need to be changed, however that involves a much higher depth of logic in the system that was not appropriate at this time. As dependencies are introduced in the future, templates will be a natural table to include in this database and will give a new dimension to the generator.

1. **Team Member Responsibility Description**

The amount of work was split evenly between the two group members. David Yambay designed the overall database and programmed the schema including tables, triggers, users, and ER diagram. David Yambay also wrote all sections of the paper that involved the database. His other contribution to the work was the creation of which monsters would be used in the sample database.

Padraic Cashin designed the interface for the database using GoLang. There was a lot of in-depth work that went into the creation of the interface to make it function with the mysql database. Beyond that Padraic created the test scenarios for the queries and ran queries and generated screenshots of the interface running. Padraic and David shared the responsibility of writing down all of the monster information that populated the database.

1. **Lessons Learnt**

The biggest lesson that we have learned from this project is that adding in dependencies and logic into the mysql database is a large endeavor and requires a vast consumption of time. More knowledge of how to program using mysql will play a large role in the efficiency of making databases in the future. Our group only had basic knowledge of the language and thus every step took many tries to cause it to function.