Week 11: Assignment 11

You can use any recent programming system you choose to complete this assignment.

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Due on 2021-10-15, 23:59 ET

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YOUR NAME

Problem 1

(a) Write a predicate that succeeds if and only if the given two lists have the same length.

```prolog
length_equal([], []).
```

(b) Write a predicate that succeeds if and only if the given two lists have the same length.

```prolog
length_equal([], []).
```

(c) Write a predicate that succeeds if and only if the given two lists have the same length.

```prolog
length_equal([], []).
```

Problem 2

(a) Write a predicate that succeeds if and only if the given integer is even.

```prolog
even(N) :- N mod 2 = 0.
```

(b) Write a predicate that succeeds if and only if the given integer is even.

```prolog
even(N) :- N mod 2 = 0.
```

(c) Write a predicate that succeeds if and only if the given integer is even.

```prolog
even(N) :- N mod 2 = 0.
```

Problem 3

(a) Write a predicate that succeeds if and only if the given integer is a multiple of 3.

```prolog
multiple_of_three(N) :- N mod 3 = 0.
```

(b) Write a predicate that succeeds if and only if the given integer is a multiple of 3.

```prolog
multiple_of_three(N) :- N mod 3 = 0.
```

(c) Write a predicate that succeeds if and only if the given integer is a multiple of 3.

```prolog
multiple_of_three(N) :- N mod 3 = 0.
```

Problem 4

(a) Write a predicate that succeeds if and only if the given integer is a multiple of 5.

```prolog
multiple_of_five(N) :- N mod 5 = 0.
```

(b) Write a predicate that succeeds if and only if the given integer is a multiple of 5.

```prolog
multiple_of_five(N) :- N mod 5 = 0.
```

(c) Write a predicate that succeeds if and only if the given integer is a multiple of 5.

```prolog
multiple_of_five(N) :- N mod 5 = 0.
```

Problem 5

(a) Write a predicate that succeeds if and only if the given integer is a multiple of both 3 and 5.

```prolog
multiple_of_3_5(N) :- N mod 3 = 0, N mod 5 = 0.
```

(b) Write a predicate that succeeds if and only if the given integer is a multiple of both 3 and 5.

```prolog
multiple_of_3_5(N) :- N mod 3 = 0, N mod 5 = 0.
```

(c) Write a predicate that succeeds if and only if the given integer is a multiple of both 3 and 5.

```prolog
multiple_of_3_5(N) :- N mod 3 = 0, N mod 5 = 0.
```

Problem 6

(a) Write a predicate that succeeds if and only if the given integer is a multiple of 3 and 5.

```prolog
multiple_of_3_5(N) :- N mod 3 = 0, N mod 5 = 0.
```

(b) Write a predicate that succeeds if and only if the given integer is a multiple of 3 and 5.

```prolog
multiple_of_3_5(N) :- N mod 3 = 0, N mod 5 = 0.
```

(c) Write a predicate that succeeds if and only if the given integer is a multiple of 3 and 5.

```prolog
multiple_of_3_5(N) :- N mod 3 = 0, N mod 5 = 0.
```