UniC Language Examples

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UniC provides a small subset of the C language, with a stricter syntax and some new helper functions such as `read` and `write`.

P1. Compute the maximum of 3 numbers

```
int a; read(a);
int b; read(b);
int c; read(c);

int max = a;

if (max < b) {
    max = b;
}

if (max < c) {
    max = c;
}

write("Max is: ");
write(max);
```

ERR_P1. Compute the maximum of 3 numbers (with 2 errors)

```
// Error 1: read puts input in the given variable
int a = read();
int b; read(b);
int c; read(c);

// Error 2: max is not initialized yet
int max = max + a;

if (max < b) {
    max = b;
}

if (max < c) {
    max = c;
}

write("Max is: ");
write(max);
```

P2. Check if a number is prime

```
int n;
read(n);

string prime_message = "Number is prime!"
string not_prime_message = "Number is NOT prime!"

if (n == 2 || n == 3) {
    write(prime_message);

    return;
}

if (n <= 1 || n % 2 == 0 || n % 3 == 0) {
    write(not_prime_message);

    return;
}

for (int i = 5; i * i <= n; i += 6) {
    if (n % i == 0 || n % (i + 2) == 0) {
        write(not_prime_message);

        return;
    }
}

write(prime_message);
```

P3. Compute the sum of n elements

```
int n;
read(n);

int sum = 0;
int x;
for (int i = 0; i < n; i++) {
    read(x);
    sum = sum + x;
}

write(sum);
```