proposed move to System F

At the Manticore meeting on 11/7/07, we discussed moving BOM in the direction of System F.

The following summarize the proposed changes to the <code>BOM</code> module:

New syntactic forms:

- `<code>let x : tau = y [tauVec]</code>``
- `<code>apply f [tauVec] (...) / (...)</code>``
- `<code>let x : tau = CONS [tauVec] (...)</code>``
- `<code>let x : tau = CONST [tauVec]`  `throw k [tau] (...)``

New types:

- `<code>alpha (* type variables *)</code>``
- `<code>forall alphaVec . tau</code>``
- `<code>T [tauVec]`  `<code>tau + tau</code>`

Here are the changes to the datatypes in the <code>BOM</code> module:

```plaintext
datatype term
 = ...

E_Apply of (var * ty list * var list * var list)
E_Throw of (var * ty list * var list)
E_HLOp of (hlop * ty list * var list * var list)
```

and `rhs`

```plaintext
 = ...

E_TyApply of (var * ty list)
E_DCon of (data_con * ty list * ty list)
```

and `lambda`

```plaintext
 = FB of Unknown macro: { f }
```

and `pat`

```plaintext
 = P_DCon of (data_con * ty list * var list)
 P_DConst of (data_con * ty list)
 ...
```

and the changes to the BOMTy module:

```plaintext
datatype ty
 = T_Var of ty_var

T_Forall of (ty_var list * ty)
T_TyCon of (tyc * ty list)
 ...
```

We'll also need to add the `<code>ty_var</code>` type and make changes to the representation of `<code>tyc</code>`s.