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:

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

New types:

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

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

datatype term

```plaintext
= ...
```

- `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)`

```plaintext
and lambda = FB of
```

Unknown macro: { f }

```plaintext
and pat
```

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

```plaintext
P_DConst of (data_con * ty list)
```

```plaintext
...
```

and the changes to the BOMTy module:

datatype ty

```plaintext
= T_Var of ty_var
```

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

```plaintext
...
```

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