**Communicating with the User**

* **Ask User**: “*Question*”
* **Get**: *Variable that will contain answer*
  + Always follow-up an “Ask” with a “Get”
* **Tell User**: “*Statement*”
* **Tell User**: “Statement” + <variableName>
* **Tell User**: “Statement1” + <variableName> + “Statement2”

**Performing a calculation**

* **Calculate** or **Compute**: *value that needs to be calculated*
  + E.g. **Calculate**: Tax or **Compute**: Grand Total
* Worksheet must also contain the **key formula** for the value be calculated
  + E.g. Tax = Sub-Total \* Tax Rate
  + E.g. Grand Total = Sub-Total + Tax Amount

**Branching – if-then-else**

* **If** (*expression to be evaluated*)
  + Then:
    - do this
  + Else:
    - do that

Example:

* if (numberGrade < 64)
  + Then:
    - Status = ‘Fail’
  + Else
    - Status = ‘Pass’

Use “and”, “or”, “not” to combine or negate test conditions

* If: (purchaseType = “clothing”) or (purchaseType = “food”)
  + Then:
    - totalCost = Price
  + Else:
    - totalCost = Price + Tax
* Use **nested numbering** to denote the yes / true path vs. the no / false path.
  + Always put the yes / true path first, then the no path, E.g.
    - 1. If: Price > $100  
      Then
      * **(Yes path)** 1.A Compute: Total = Price – (Price \* Discount)
    - Else
      * **(No path)** 1.B Compute: Total = Price

**Branching – case / switch statements**

* *Perform action* **Based On** *Variable*
  + E.g. Set Price **Based On** Product-Selected
  + E.g. Set Letter-Grade **Based On** Number-Grade
  + E.g. Set Discount Amount **Based On** Day-of-the-Week
* Follow-up the above statement with a table showing the different applicable actions based on the value contained in the variable, including the “default” option if applicable,
  + E.g. Set Price **Based On** Product-Selected

|  |  |
| --- | --- |
| **Product-Selected** | **Price** |
| Shirt | $5 |
| Pants | $25 |
| Gloves | $10 |

* + E.g. Set Discount Amount **Based On** Day-of-the-Week

|  |  |
| --- | --- |
| **Day-of-the-Week** | **Discount Amount** |
| Tuesday | 10% |
| Wednesday | 10% |
| Thursday | 10% |
| Default | 0% |

* + E.g. Tell user what prize they’ve won **Based On** Number-Selected-By-User

|  |  |
| --- | --- |
| **Number-Selected-By-User** | **Tell User** |
| 1 | “You have won a large prize” |
| 2 | “You have won a medium prize” |
| 3 | “You have won a small prize” |
| Default | “You have not won any prize” |

**Looping**

* **For** counter=1 **up to** maxValue **Do**:
  + Action to be repeated
* **For** counter = startValue **down to** 1 **Do**:
  + Action to be repeated
* **While** (expression to be evaluated) **Do**:
  + *Action to be repeated*