

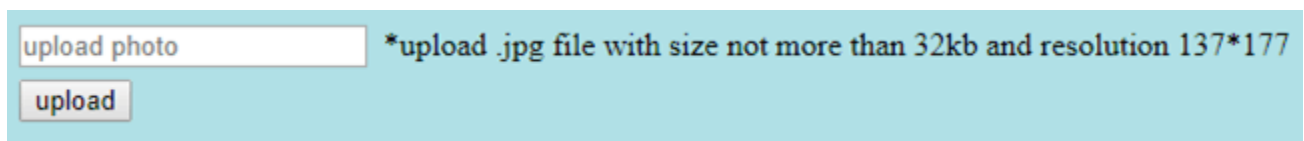
# LAB3 – Control Flow Graph and Decision Table

**Due Date:** 27/02

**Exercise 1:** Consider a dialogue box which will ask the user to upload photo with the following conditions

1. You can upload only '.jpg' format image
2. file size less than 32kb
3. resolution 137\*177.

If any of the conditions fails the system will throw corresponding error message stating the issue and if all conditions are met photo will be updated successfully



**Create the decision table for this case.**

Questions for Exercise 2-6

1. Draw the control flow graph of the function
2. Select TWO test cases and calculate *statement coverage* and *decision coverage* for each test case.
3. Select test cases in order to get 100% decision coverage
4. Check your answer with testing in python

**Exercise 2:** Given a function in C:

```
int func1(int a, int b){
    if (a > b) {
        while (a >= b)
            { a -= 1; b += 1; }
    }
    else {b += a; }
    return b;
}
```

**Exercise 3:**

```
def func2(x,y):
    if (1 > x > 0) and y < 0:
        return x+y
    elif x > 1:
        return x*y
```

```

else:
    return x-y

```

**Exercise 4:** The following C++-function calculates the total price is given

```

double calculate_price (double baseprice, double specialprice,
double extraprice, int extras, double discount)
    //need to change function with your name
    //example def calculate_price_Tdque(x,y)
{
double addon_discount;
double result;
if (extras >= 3) addon_discount = 10;
else if (extras >= 5) addon_discount = 15;
//????
else addon_discount = 0;
if (discount > addon_discount)
addon_discount = discount;
result = baseprice/100.0*(100-discount)
+ specialprice
+ extraprice/100.0*(100-addon_discount);
return result;
}

```

#### **Exercise 5:**

The discount in supermarket is computed based on two factors: *types of card (yellow or white)* and *cost of the bill at the current payment*. The bill over 500\$ with yellow card is discounted 6% but with white one is discounted 5%; the bill over \$300 and =< \$500 with yellow card is discounted 4% but with white one is discounted 3%; the bill >= \$200 and =<300 with yellow card is discounted 3% but not discounted for white one. There is no discount for the remaining cases.

#### **Exercise 6:**

Write a function for determining the type of flight ticket which is described in the following statements: If you are flying with an economy ticket, there is a possibility that you may get upgraded to business class, especially if you hold a gold card in the airline's frequent flier program. If you don't hold a gold card, there is a possibility that you will get 'bumped' off the flight if it is full and you check in late.