

PROGRAMMING
FUNDAMENTALS LAB

LAB 2 ASSIGNMENT

COURSE CODE CL-1002

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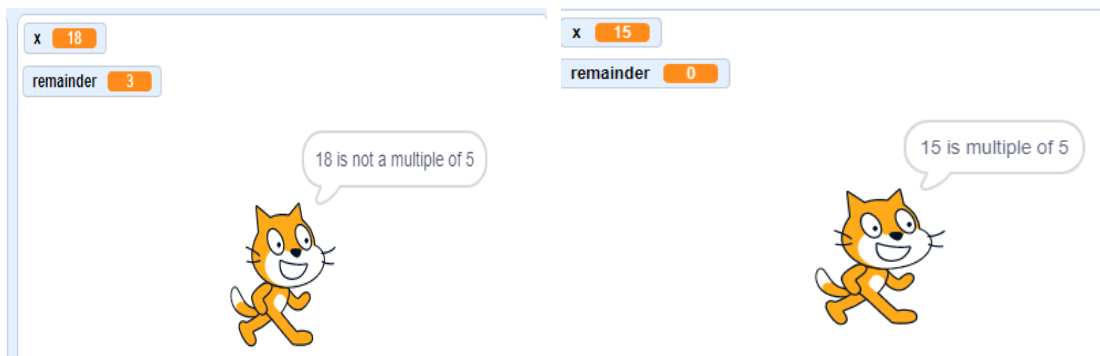
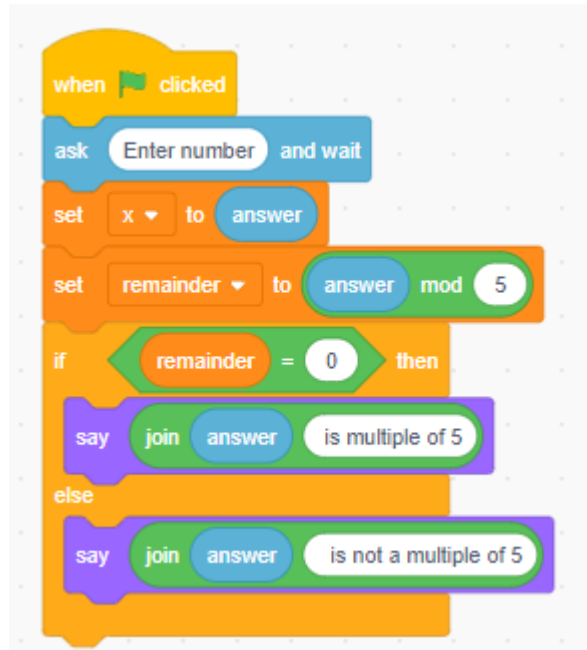
ROLL NO. 22K-4456

MS. AYESHA ALI

EXERCISE: 2

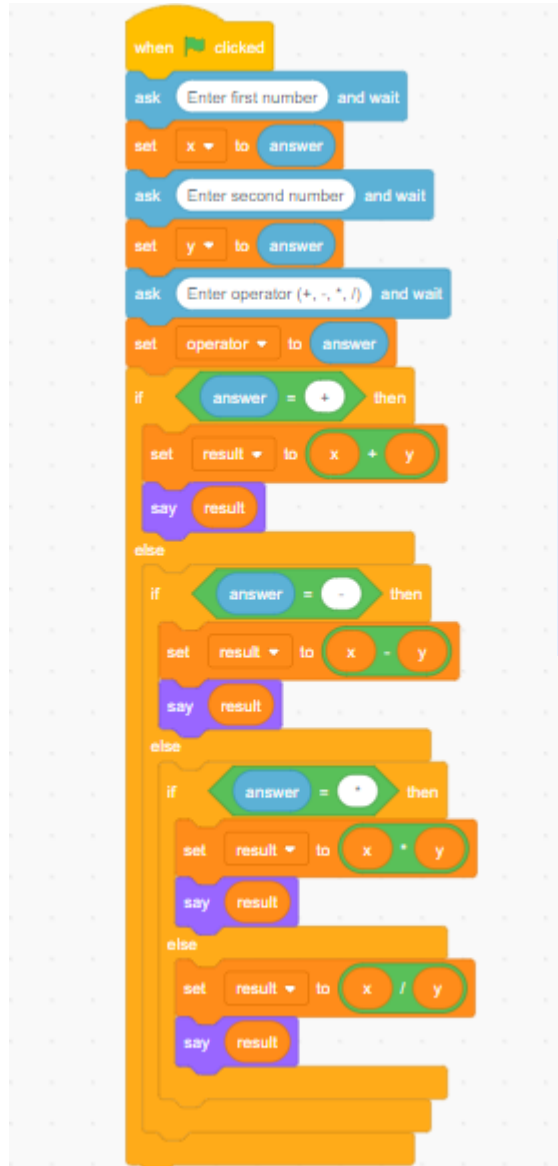
Question:1

Take a number as an input from a user. Check if whether a number is multiple of 5 or not. If it is then print "This number is multiple of 5", otherwise print "This number is not multiple of 5"



Question: 2

Create a calculator asking for operator (+ or – or * or /) and operands and perform calculation according to the user input.



Question: 3

An online shopping store is providing discounts on the items due to the Eid. If the cost of items is more than 1999 it will give a discount up to 50%. If the cost of shopping is 2000 to 4000, a 20% discount will be applied. If the cost of shopping is 4001 to 6000, a 30% discount will be applied. If it's more than 6000 then 50% discount will be applied to the cost of shopping. Print the actual amount, saved amount and the amount after discount.

The image shows a Scratch script for a discount calculator and three test cases. The script starts with a 'when clicked' event, followed by an 'ask' block: 'Whats the price of the item? and wait'. Then, it sets 'price' to the 'answer'. The script uses a series of 'if' and 'else' blocks to apply discounts based on the price range. Finally, it prints the 'Actual price is', 'Price after discount is', and 'Saved amount'.

Test Case 1:

price	3000
New price	2400
saved amount	600

Saved amount is 600

Test Case 2:

price	5000
New price	3500
saved amount	1500

Saved amount is 1500

Test Case 3:

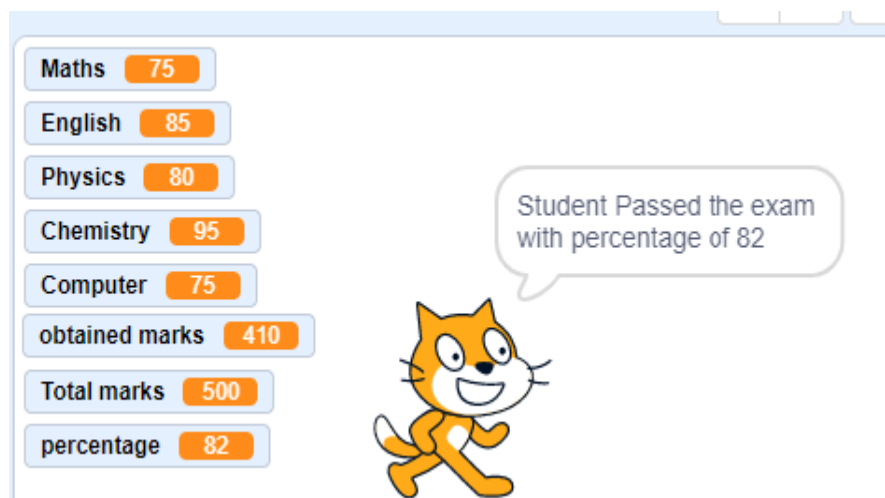
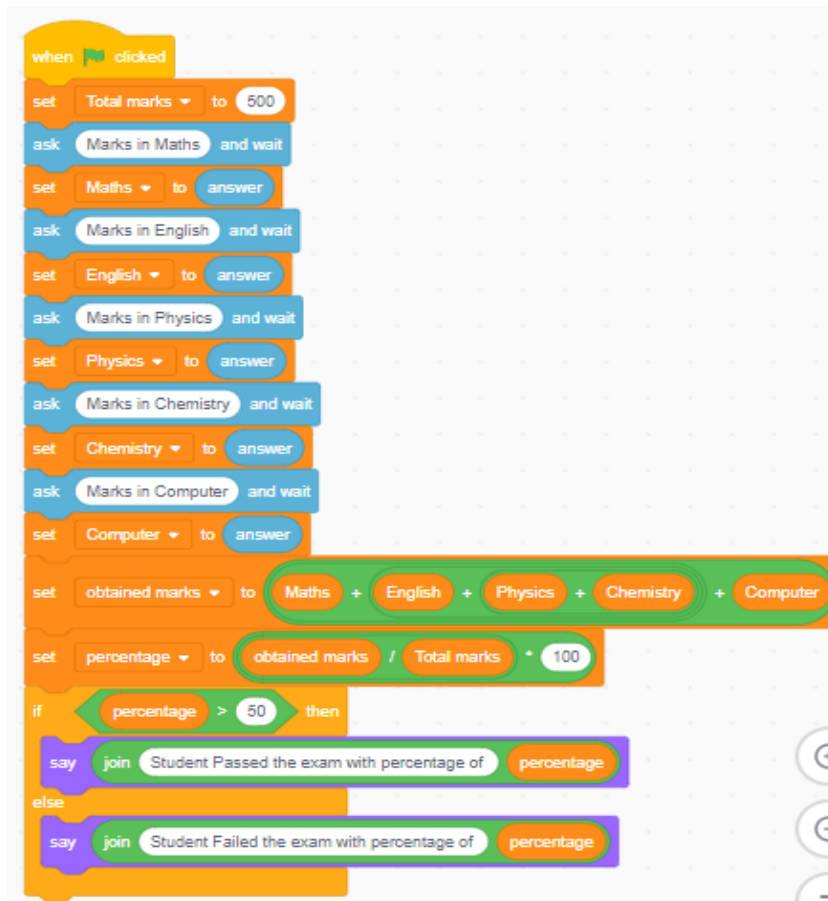
price	9000
New price	4500
saved amount	4500

Saved amount is 4500

```
when clicked
ask Whats the price of the item? and wait
set price to answer
if 4001 > price and price > 1999 then
  set New price to price * 0.8
else
  if price > 4000 and price < 6001 then
    set New price to price * 0.7
  else
    if price > 6000 then
      set New price to price * 0.5
  end
end
say join Actual price is price for 2 seconds
say join Price after discount is New price for 2 seconds
set saved amount to price - New price
say join Saved amount is saved amount for 2 seconds
```

Question: 4

You are supposed to create a mark sheet. There are total five subjects. Each subject has equal marks i.e., 100, therefore total marks are 500. Take marks of five subjects as an input from the user. Calculate the percentage. If the percentage is below 50, he/she is fail else he/she is pass. Draw a flowchart on your notebook. Convert the flowchart into scratch diagram.



Question: 5

Using IF, displays the following menu for the food items available to take order from the customer: **B= Burger (Rs. 200) · F= French Fries (Rs. 50) · P= Pizza (Rs. 500) · S= Sandwiches (Rs. 150)**. The customer can order any combination of available food. The program first asks to enter the no of types of snacks i.e. 2, 3 or 4 then it asks to enter the choice i.e. B for Burger and then for quantity. The program should finally display the total charges for the order.

```
when clicked
say B- Burger = Rs.200 for 1 seconds
say F- Fries = Rs.50 for 1 seconds
say P- Pizza = Rs.300 for 1 seconds
say S- Sandwich = Rs.150 for 1 seconds
set B to 200
set F to 50
set P to 300
set S to 150
ask How many types of snacks you want to order? (2,3 or 4?) and wait
set snacks to answer
set i to 0
repeat until i = snacks
ask Enter your snack. (B, F, P, S) and wait
change i by 1
if answer = B then
ask Enter quantity and wait
set Qty to answer
set Amount B to B * Qty
say join Burger(s) cost: Rs. Amount B for 2 seconds
else
if answer = F then
ask Enter quantity and wait
set Qty to answer
set Amount F to F * Qty
say join Fries cost: Rs. Amount F for 2 seconds
else
if answer = P then
ask Enter quantity and wait
set Qty to answer
set Amount P to P * Qty
say join Pizza(s) cost: Rs. Amount P for 2 seconds
else
if answer = S then
ask Enter quantity and wait
set Qty to answer
set Amount S to S * Qty
say join Sandwich(es) cost: Rs. Amount S for 2 seconds
else
say INVALID INPUT for 2 seconds
set Total Amount to Amount B + Amount F + Amount P + Amount S
say join Your Total bill is: Rs. Total Amount
```

snacks 3

Amount B 400

Amount F 200

Amount P 0

Amount S 300

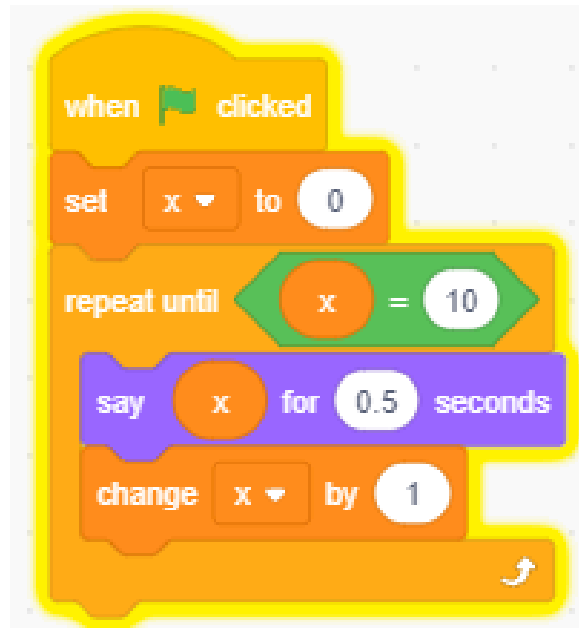
Qty 2

Total Amount 900

Your Total bill is: Rs.900

Question: 6

Given below is a flow chart. Identify the decision and iterative structures in it. Convert the flow chart in to scratch diagram.



Question: 7

Given below is a scratch diagram. Write a description of the diagram as well as draw its flowchart on your notebook.

In this flowchart the variable "Some Number" is set to 42 and then the iterator is used. If the number is greater than 30, the condition statement will check whether the variable is greater than 35 or not. If the condition is true, the variable will be changed by -5, if it is false then the variable will be subtracted by 2 with its own value. This process would go on until the variable becomes less than 30.

