Q2

pseudocode

```
INIT: prev = array[0]
INIT: counter = 0

  for num in array:
    if num is prev:
      ADD: counter += 1
    else:
      INIT: counter = 1
    if counter is 5:
      return True

    UPDATE: prev = num

  return False
```

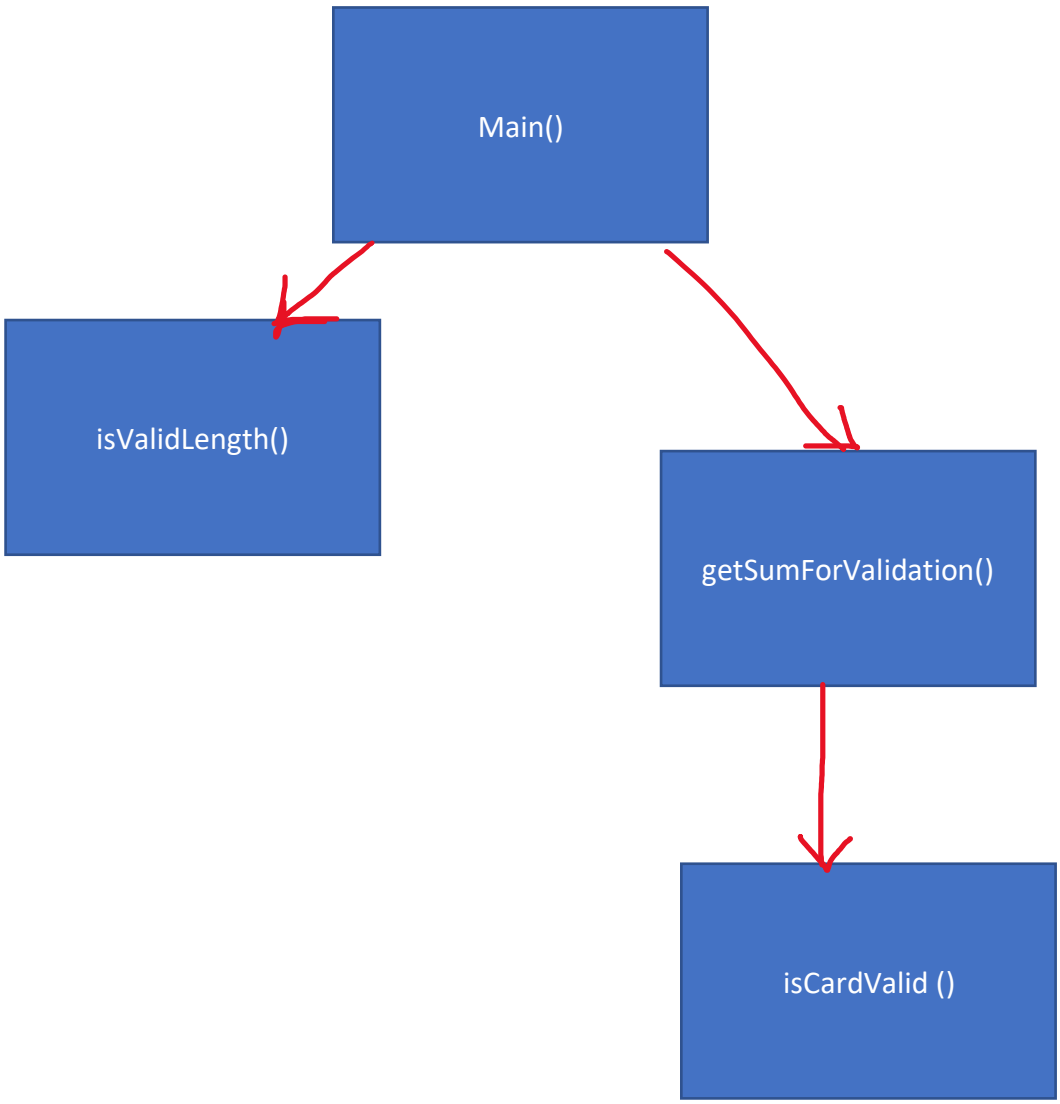
C++ code

```
bool isConsecutive5(const int values[], int size){
  // Check size for avoiding out of range
  if(size<5) return false;
  //init vars
  int prev = values[0], cnt=1;
  //Compare previous and now
  for (int i = 1; i < size; i++){
    cnt = (prev==values[i]) ? cnt+1 : 1;
    prev = values[i];

    if(cnt==5) return true;
  }
  return false;
}
```

Q3

Design Diagram



pseudocode

```
FUNCTION: isLengthValid(array)
    return 13<=len(array)<=16

FUNCTION: getSumForValidation()
    INIT: ret = 0
    for num in ReversedArray:
        if index(num) is odd (1-index):
            ret += quotient(num,10) + remainder(num,10)
        else:
            ret += num
    return ret


FUNCTION: isCardValid(sum : getSumForValidation)
    if remainder(sum,10) is 0:
        return True
    else:
        return False


FUNCIONT: MAIN()
    array = input()

    sum = getSumForValidation(array)

    if(isCardValid(sum)):
        print("This card is valid")
```

```
else :
    print("This is NOT valid")
```

Result

```
kemkemg0@MBP16 Assignment2 % g SSN.cpp && aout
Input Credit Card Number: 4388576018402626
!!This Card is INVALID.!!
kemkemg0@MBP16 Assignment2 % g SSN.cpp && aout
Input Credit Card Number: 4388576018410707
This Card is Valid.
```