

# **An algorithm for grouping thirteen cards**

# Enumerate $C_5^{13}$

```
var ss = "abcdefghijklm"  
print(ss[ss.startIndex])  
let i = ss.index(ss.startIndex,offsetBy: 1)  
print(Int(ss[i].asciiValue ?? 0) - 97)  
let j = ss.index(ss.startIndex,offsetBy: 1)  
print(ss[j...])  
for c in ss{  
    print(c)  
}
```

```
func choice(_ ss: String, _ n:Int)-> [String]{
  var aa = [String]()
  if n == ss.count{
    aa.append(ss)
    return aa
  }
  if n == 1{
    for c in ss{
      aa.append(String(c))
    }
    return aa
  }
  let c = ss[ss.startIndex]
  let j = ss.index(ss.startIndex,offsetBy: 1)
  let tt = String(ss[j...])
  let bb = choice(tt, n-1)
  for item in bb{
    aa.append(String(c) + item)
  }
  let dd = choice(tt,n)
  for item in dd{
    aa.append( item)
  }
  return aa
}
```

```
let kk = choice(ss, 5)
for item in kk{
    print(item)
}
```

# G3(best)

- Try to enumerate all hands in given thirteen cards
- Select the category that is best

11:36



52 cards [New Game](#)

[Get 5 Cards](#)

[Get 13 Cards](#)

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39 cards [New Game](#)

[Get 5 Cards](#)

[Get 13 Cards](#)

13 Cards:

♥ 6 ♣ 8 ♥ 11 ♣ 4 ♠ 13  
♥ 3 ♦ 6 ♠ 10 ♠ 8 ♥ 4 ♠ 12  
♣ 10 ♦ 5

G1(best): onePair 10

G3(best): twoPair

♥ 6 ♣ 8 ♥ 11 ♦ 6 ♠ 8

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26 cards [New Game](#)

[Get 5 Cards](#)

[Get 13 Cards](#)

13 Cards:

♥ 5 ♠ 9 ♣ 9 ♠ 4 ♠ 6  
♠ 11 ♥ 1 ♠ 3 ♦ 3 ♣ 6 ♣ 3  
♦ 9 ♦ 7

G1(best): threeOfaKind 9

G3(best): fullHouse

♠ 9 ♣ 9 ♠ 6 ♣ 6 ♦ 9