



3ª LISTA DE EXERCÍCIOS

0004604A - ALGORITMOS I



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1.

```
1  #include <stdio.h>
2  #include <math.h>
3
4  main() {
5
6      int n;
7
8      for(int t=1;; t++) {
9          scanf("%d", &n);
10
11          if(n==-1) break;
12
13          printf("Teste %d\n", t);
14          printf("%.f\n", pow(pow(2, n)+1, 2));
15      }
16
17 }
```

2.

```
1  #include <stdio.h>
2  #include <math.h>
3
4  main() {
5
6      int n, t=1;
7
8      while(scanf("%d", &n) && n>0) {
9          printf("Teste %d\n%d\n", t++, (1 << n)-1);
10      }
11
12 }
```

3.

```

1  #include <stdio.h>
2
3  = main() {
4
5      int n;
6
7      scanf("%d", &n);
8
9      if(n >= 86) printf("A");
10     else if(n >= 61) printf("B");
11     else if(n >= 36) printf("C");
12     else if(n) printf("D");
13     else printf("E");
14
15 }

```

4.

```

1  #include <stdio.h>
2
3  = main() {
4
5      int a;
6
7      scanf("%d", &a);
8
9      printf("%d", a+76-(a-1986)%76);
10
11 }

```

5.

```

1  #include <stdio.h>
2
3  //Retorna (x1, y1) está contido em (x2, y2)
4  int c(int x1,int y1,int x2,int y2) {
5      return x1<=x2 && y1<=y2 || x1<=y2 && y1<=x2;
6  }
7
8  main() {
9      int a1, b1, a2, b2, a, b;
10
11      scanf("%d %d %d %d %d %d",&a1,&b1,&a2,&b2,&a,&b);
12
13      if(c(a, b, a2, b2)) {
14          printf("S");
15          return 0;
16      }
17
18      for(int k=0;k<=a;k++) {
19          if(c(a,k,a1,b1)&&c(a,b-k,a2,b2) || c(a,k,a2,b2)&&c(a,b-k,a1,b1)) {
20              printf("S");
21              return 0;
22          }
23      }
24      for(int k=0;k<=b;k++) {
25          if(c(b,k,a1,b1)&&c(b,a-k,a2,b2) || c(b,k,a2,b2)&&c(b,a-k,a1,b1)) {
26              printf("S");
27              return 0;
28          }
29      }
30      printf("N");
31  }

```

6.

```

1  #include <stdio.h>
2  #include <math.h>
3
4  main() {
5
6      int xm, ym, xr, yr;
7
8      scanf("%d %d %d %d", &xm, &ym, &xr, &yr);
9
10     printf("%d", abs(xr-xm) + abs(yr-ym));
11
12 }

```