concatena.c

```
#include <stdio.h>
#include <stdlib.h>

int len (char * s)
{
  int n = 0;

  while(s[n]!='\0') n++;

  return n;

}

char * concatena (char * s1, char * s2)
{
  int l1, l2, i;
  char * s3;

  l1 = len(s1);
  l2 = len(s2);

  s3 = malloc(sizeof(char)*(l1+l2));

  /* copia s1 para s3 */
  for (i=0;i<l1;i++) {
    s3[i] = s1[i];
  }

  /* copia s2 para s3, a partir da posicao l1 */
  for (i=0;i<l2;i++) {
    s3[l1+i] = s2[i];
  }

  return s3;
}

int main ()
{
  char s1[255] = "Ola";
  char s2[255] = " Mundo";
  char * s3 = concatena(s1,s2);

  printf("%s\n", s3);

  free(s3);

  return 0;

}
```

primos1.c

```
#include <stdio.h>
#include <stdlib.h>
#include <math.h>

char eh_primo(unsigned int x)
{
  unsigned int i;

  if (x < 2) return 0;

  /* se exsitir */
  for (i=2;i<=sqrt(x);i++) {
    if ((x%i)==0) return 0;
  }

  return 1;
}

void preenche_primo (char * primos, unsigned int n)
{
  unsigned int i;

  for (i=0;i<n;i++) {
    primos[i] = eh_primo(i);
  }
}

unsigned int soma (char * v, unsigned int n)
{
  unsigned int i, soma = 0;

  for (i=0;i<n;i++) {
    soma += v[i];
  }

  return soma;
}

int main (int argc, char **argv)
{
  char * primos;
  unsigned int n;

  if (argc < 2) {
    printf("Uso: %s n\n", argv[0]);
    return -1;
  }

  n = atoi(argv[1]);

  primos = malloc(sizeof(char)*n);
  if (!primos) {
    printf("EspaÃ§o insuficiente de memÃ³ria!\n");
    return -1;
```

```
  }

  preenche_primo(primos, n);
  printf("%d\n", soma(primos, n));

  free(primos);

  return 0;

}
```

primos2.c

```
#include <stdio.h>
#include <stdlib.h>

void seta_valores (char * v, char valor, int inicial, int n, int passo)
{
  unsigned int i;

  for (i=inicial;i<n;i+=passo) {
     v[i] = valor;
  }
}

void preenche_primo (char * primos, unsigned int n)
{
  unsigned int i;

  /* preenche tudo inicialmente com 1 */
  seta_valores(primos, 1, 0, n, 1);

  /* 0 e 1 nao sao primos */
  primos[0] = primos[1] = 0;

  /* remove os multiplos de primos */
  for (i=2;i<n;i++) {
    if (primos[i]) {
      seta_valores(primos, 0, 2*i, n, i);
    }
  }


}

unsigned int soma (char * v, unsigned int n)
{
  unsigned int i, soma = 0;

  for (i=0;i<n;i++) {
    soma += v[i];
  }

  return soma;
}

int main (int argc, char **argv)
{
  char * primos;
  unsigned int n;

  if (argc < 2) {
    printf("Uso: %s n\n", argv[0]);
    return -1;
  }

  n = atoi(argv[1]);
```

```
  primos = malloc(sizeof(char)*n);
  if (!primos) {
    printf("EspaÃ§o insuficiente de memÃ³ria!\n");
    return -1;
  }

  preenche_primo(primos, n);
  printf("%d\n", soma(primos, n));

  free(primos);

  return 0;

}
```