吴老师，骆学长和孙学长好，以下是我的作业。

上机随堂作业

- *教材*

  P. 149 题 16

  *P. 149 题 19: 字符串交换 swap(char **s1, char **s2)。(要求：为不使用引用，使用二级指针形参实现字符串交换函数，打印输出原字符串和交换后字符串。测试样例： char *s1="Shanghai", char *s2="Beijing")*

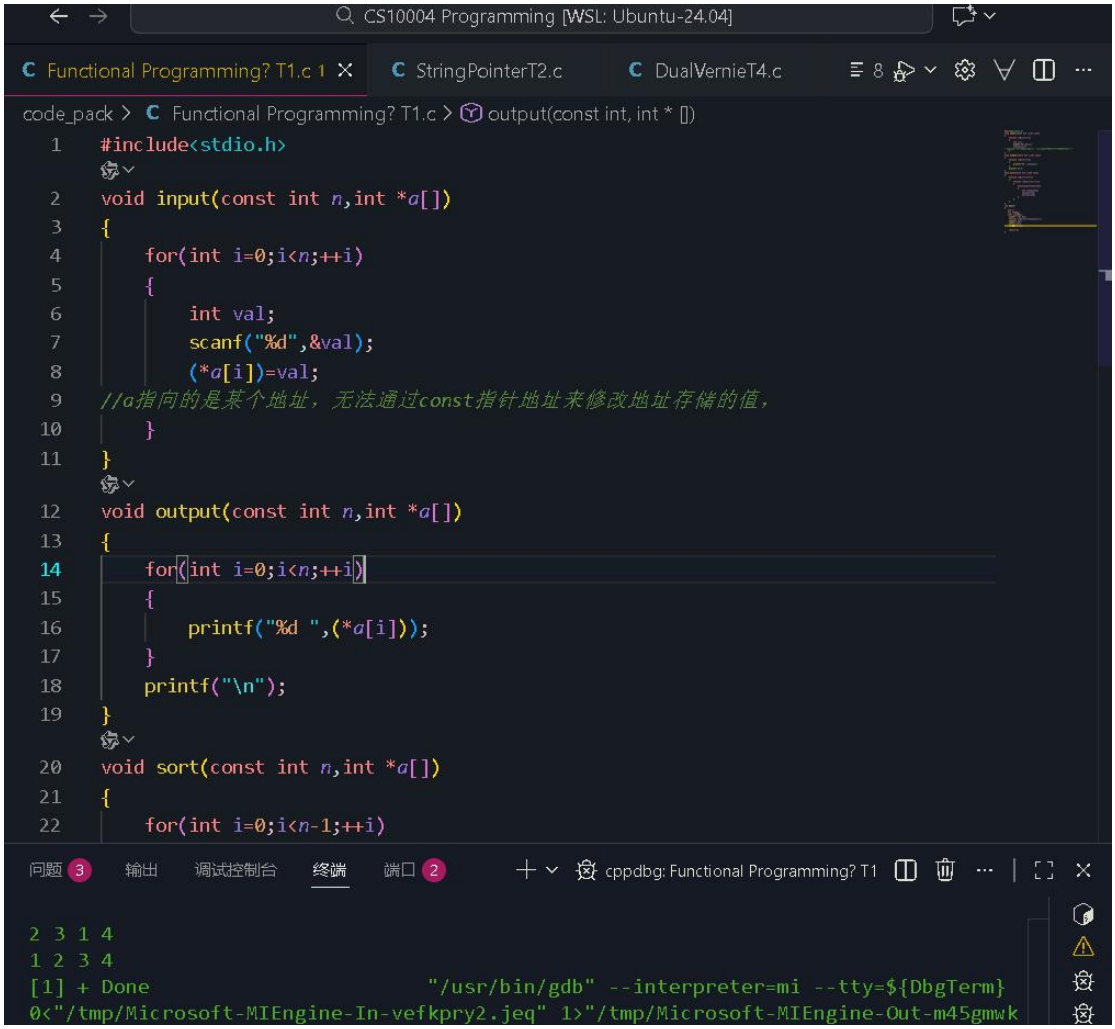
- *补充题*

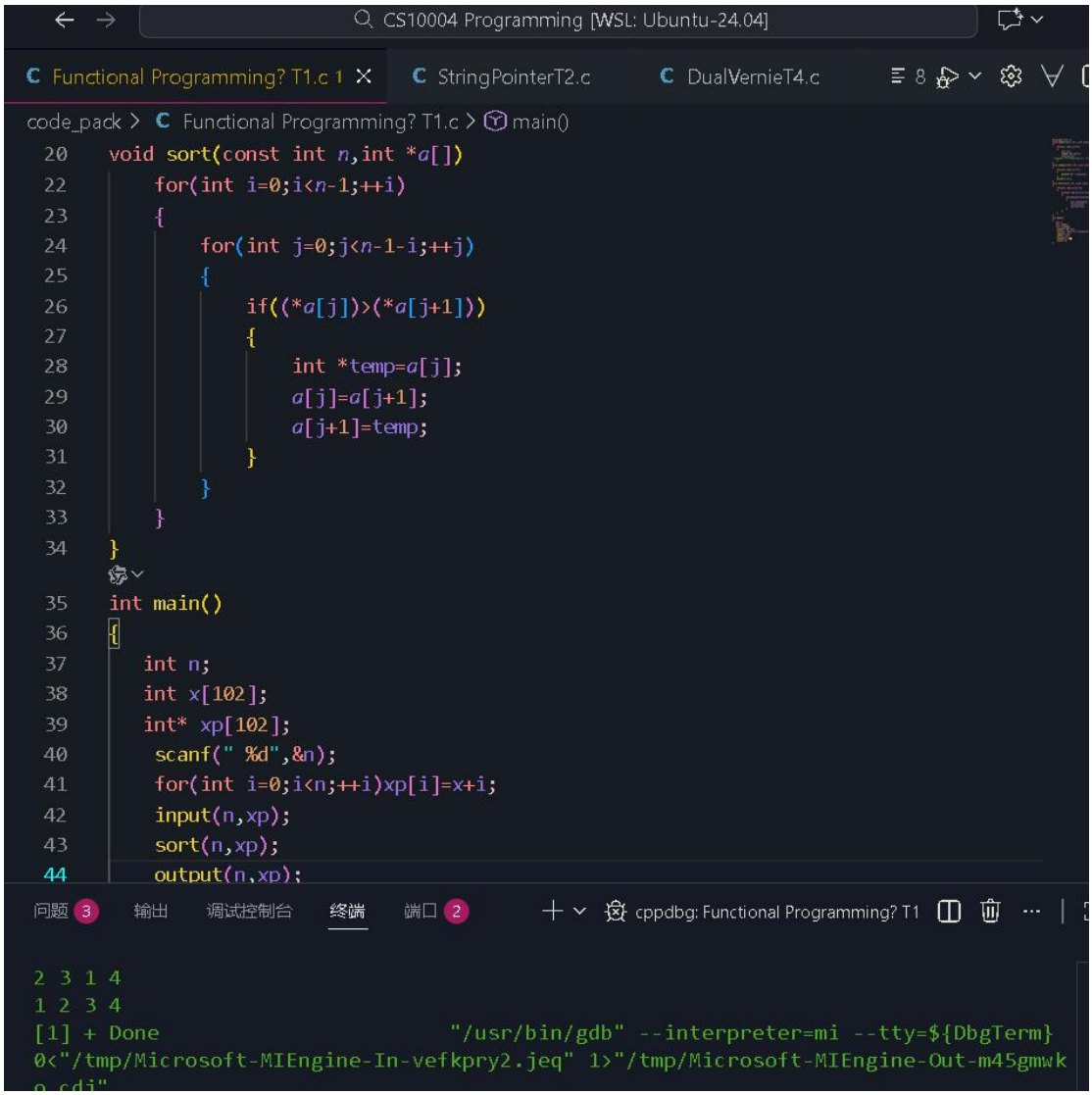
  编写求前 n 个质数并存入数组的程序 is_prime(int x[], int n)。(要求：用数组形参实现。测试样例：n=20; n=100）

- *附加题*

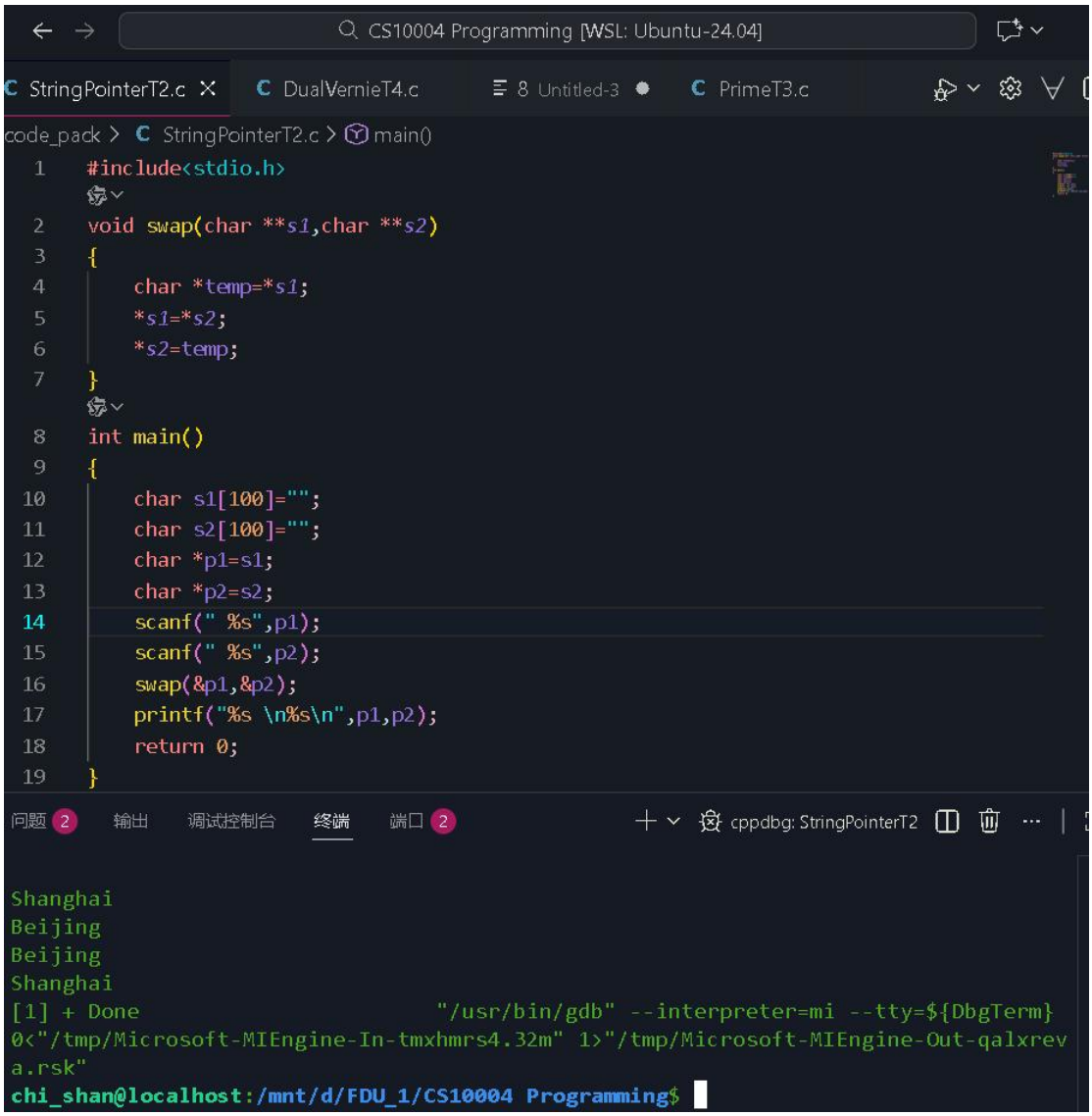
  给定一个正整数数组 a，正整数 s，求出数组中有多少连续段的数值和恰好等于 s。要求：只能用指针访问数组元素，不能有辅助数组。测试样例：a[]={3, 1, 2, 4, 6, 4, 5, 1}, s = 6，输出：4 ({3, 1, 2}, {2, 4}, {6}, {5, 1})

Chi-Shan0707/Homework-in-CS10004-Programming-by-yhchi
代码仓库↑
1.

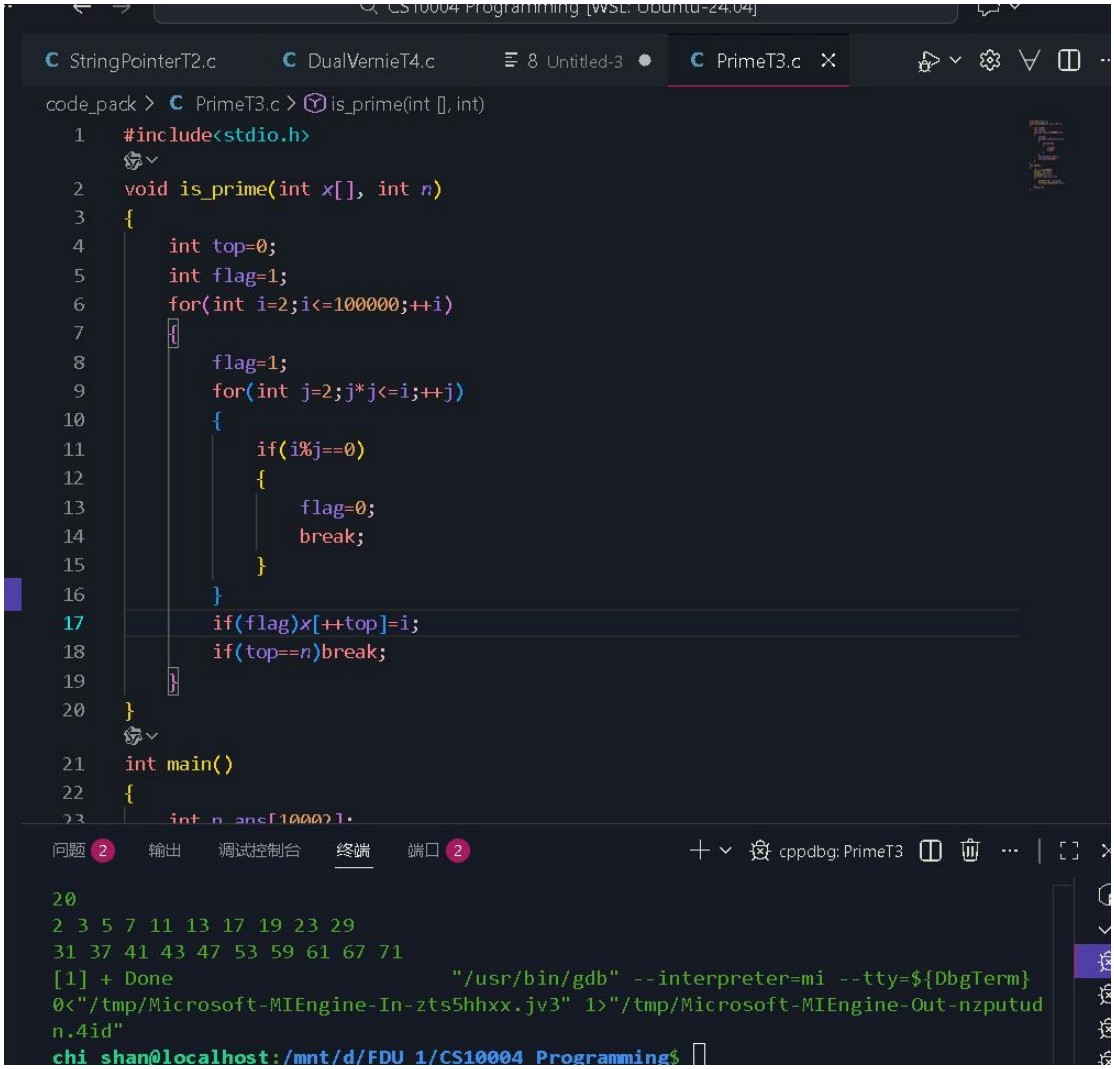

CS10004 Programming [WSL: Ubuntu-24.04]
Functional Programming? T1.c 1
StringPointerT2.c
DualVernieT4.c
code_pack > Functional Programming? T1.c > output(const int, int * [])
#include<stdio.h>
void input(const int n,int *a[])
{
for(int i=0;i<n;++i)
{
int val;
scanf("%d",&val);
(*a[i])=val;
//a指向的是某个地址，无法通过const指针地址来修改地址存储的值，
}
}
void output(const int n,int *a[])
{
for(int i=0;i<n;++i)
{
printf("%d ",(*a[i]));
}
printf("\n");
}
void sort(const int n,int *a[])
{
for(int i=0;i<n-1;++i)
问题 3
输出
调试控制台
终端
端口 2
cppdbg: Functional Programming? T1
2 3 1 4
1 2 3 4
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm}
0<"/tmp/Microsoft-MIEngine-In-vefkpry2.jeq" 1>"/tmp/Microsoft-MIEngine-Out-m45gmwk

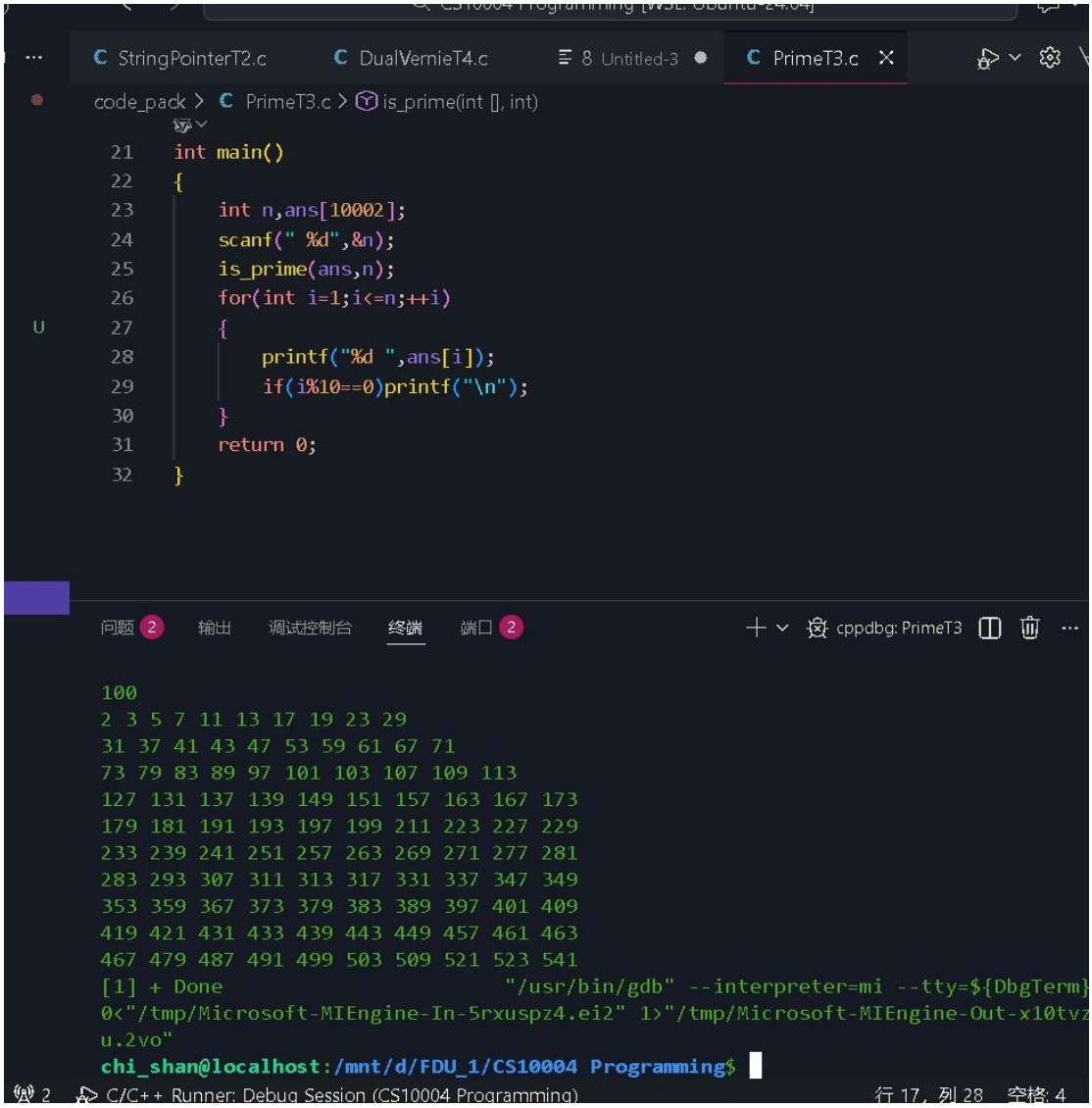

CS10004 Programming [WSL: Ubuntu-24.04]
Functional Programming? T1.c 1
StringPointerT2.c
DualVernieT4.c
code_pack > Functional Programming? T1.c > main()
20 void sort(const int n,int *a[])
22 for(int i=0;i<n-1;++i)
23 {
24 for(int j=0;j<n-1-i;++j)
25 {
26 if((*a[j])>(*a[j+1]))
27 {
28 int *temp=a[j];
29 a[j]=a[j+1];
30 a[j+1]=temp;
31 }
32 }
33 }
34 }
35 int main()
36 {
37 int n;
38 int x[102];
39 int* xp[102];
40 scanf(" %d",&n);
41 for(int i=0;i<n;++i)xp[i]=x+i;
42 input(n,xp);
43 sort(n,xp);
44 output(n,xp);
问题 3
输出
调试控制台
终端
端口 2
cppdbg: Functional Programming? T1
2 3 1 4
1 2 3 4
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm}
0<"/tmp/Microsoft-MIEngine-In-vefkpry2.jeq" 1>"/tmp/Microsoft-MIEngine-Out-m45gmwk

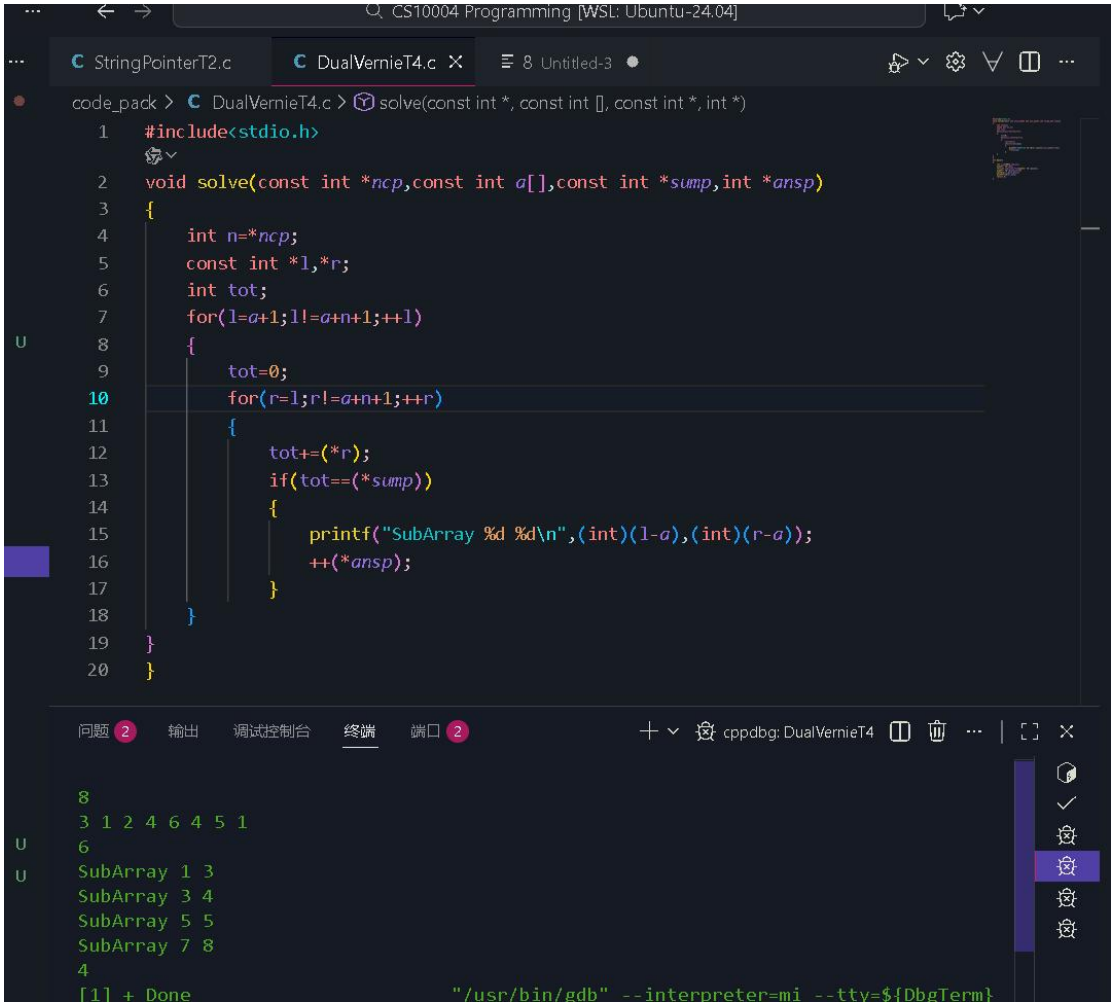
2

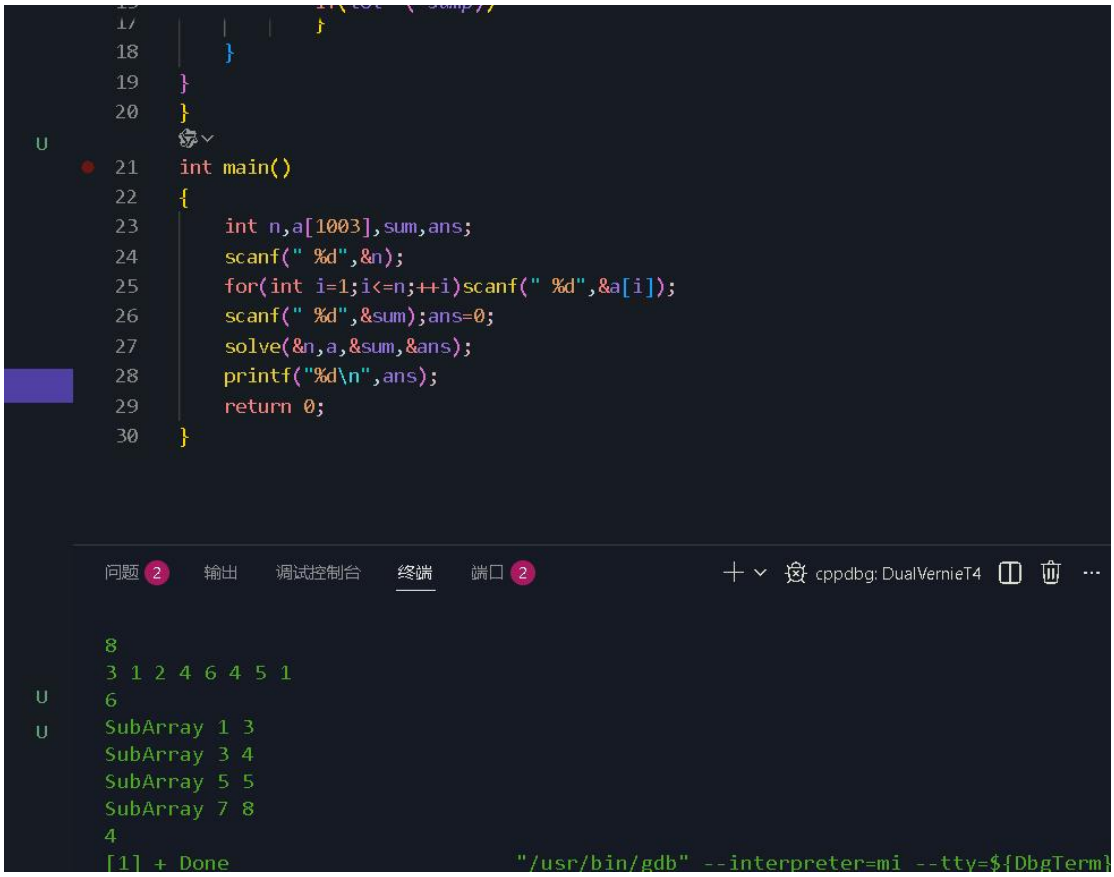

CS10004 Programming [WSL: Ubuntu-24.04]
StringPointerT2.c
DualVernieT4.c
8 Untitled-3
PrimeT3.c
code_pack > StringPointerT2.c > main()
#include<stdio.h>
void swap(char **s1,char **s2)
{
char *temp=*s1;
*s1=*s2;
*s2=temp;
}
int main()
{
char s1[100]="";
char s2[100]="";
char *p1=s1;
char *p2=s2;
scanf(" %s",p1);
scanf(" %s",p2);
swap(&p1,&p2);
printf("%s \n%s\n",p1,p2);
return 0;
}
问题 2
输出
调试控制台
终端
端口 2
cppdbg: StringPointerT2
Shanghai
Beijing
Beijing
Shanghai
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm}
0<"/tmp/Microsoft-MIEngine-In-tmxhmrs4.32m" 1>"/tmp/Microsoft-MIEngine-Out-qalxreva.rsk"
chi_shan@localhost:/mnt/d/FDU_1/CS10004 Programming$

3.


StringPointerT2.c
DualVernieT4.c
8 Untitled-3
PrimeT3.c
code_pack > PrimeT3.c > is_prime(int [], int)
#include<stdio.h>
void is_prime(int x[], int n)
{
int top=0;
int flag=1;
for(int i=2;i<=100000;++i)
{
flag=1;
for(int j=2;j*j<=i;++j)
{
if(i%j==0)
{
flag=0;
break;
}
}
if(flag)x[++top]=i;
if(top==n)break;
}
}
int main()
{
问题 2
输出
调试控制台
终端
端口 2
cppdbg: PrimeT3
20
2 3 5 7 11 13 17 19 23 29
31 37 41 43 47 53 59 61 67 71
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm}
0<"/tmp/Microsoft-MIEngine-In-zts5hhxx.jv3" 1>"/tmp/Microsoft-MIEngine-Out-nzputud
n.4id"
chi_shan@localhost:/mnt/d/FDU_1/CS10004_Programming$


StringPointerT2.c
DualVernieT4.c
8 Untitled-3
PrimeT3.c
code_pack > PrimeT3.c > is_prime(int [], int)
21 int main()
22 {
23 int n,ans[10002];
24 scanf(" %d",&n);
25 is_prime(ans,n);
26 for(int i=1;i<=n;++i)
27 {
28 printf("%d ",ans[i]);
29 if(i%10==0)printf("\n");
30 }
31 return 0;
32 }
问题 2
输出
调试控制台
终端
端口 2
cppdbg: PrimeT3
100
2 3 5 7 11 13 17 19 23 29
31 37 41 43 47 53 59 61 67 71
73 79 83 89 97 101 103 107 109 113
127 131 137 139 149 151 157 163 167 173
179 181 191 193 197 199 211 223 227 229
233 239 241 251 257 263 269 271 277 281
283 293 307 311 313 317 331 337 347 349
353 359 367 373 379 383 389 397 401 409
419 421 431 433 439 443 449 457 461 463
467 479 487 491 499 503 509 521 523 541
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm}
0<"/tmp/Microsoft-MIEngine-In-5rxuspz4.ei2" 1>"/tmp/Microsoft-MIEngine-Out-x10tvz
u.2vo"
chi_shan@localhost:/mnt/d/FDU_1/CS10004 Programming$
C/C++ Runner: Debug Session (CS10004 Programming)
行 17，列 28
空格: 4


CS10004 Programming [WSL: Ubuntu-24.04]
StringPointerT2.c
DualVernieT4.c
8 Untitled-3
code_pack > DualVernieT4.c > solve(const int *, const int [], const int *, int *)
#include<stdio.h>
void solve(const int *ncp,const int a[],const int *sump,int *ansp)
{
int n=*ncp;
const int *l,*r;
int tot;
for(l=a+1;l!=a+n+1;++l)
{
tot=0;
for(r=l;r!=a+n+1;++r)
{
tot+=(*r);
if(tot==(*sump))
{
printf("SubArray %d %d\n",(int)(l-a),(int)(r-a));
++(*ansp);
}
}
}
}
问题 2
输出
调试控制台
终端
端口 2
cppdbg: DualVernieT4
8
3 1 2 4 6 4 5 1
6
SubArray 1 3
SubArray 3 4
SubArray 5 5
SubArray 7 8
4
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm}


}
}
}
}
int main()
{
int n,a[1003],sum,ans;
scanf(" %d",&n);
for(int i=1;i<=n;++i)scanf(" %d",&a[i]);
scanf(" %d",&sum);ans=0;
solve(&n,a,&sum,&ans);
printf("%d\n",ans);
return 0;
}
问题 2
输出
调试控制台
终端
端口 2
cppdbg: DualVernieT4
8
3 1 2 4 6 4 5 1
6
SubArray 1 3
SubArray 3 4
SubArray 5 5
SubArray 7 8
4
[1] + Done "/usr/bin/gdb" --interpreter=mi --tty=${DbgTerm}