

3.1

Bài tập hệ thống số : $a = (22122009)_{16}$ và $b = (A10420F3)_{16}$

a.

$$a = 9 \times 1 + 2 \times 16^3 + 2 \times 16^4 + 1 \times 16^5 + 2 \times 16^6 + 2 \times 16^7 = 571613193_{10}$$

$$a = 0010\ 0010\ 0001\ 0010\ 0010\ 0000\ 0000\ 1001_2$$

b.

$$b = 1010\ 0001\ 0000\ 0100\ 0010\ 0000\ 1111\ 0011_2$$

$$\text{not } a = 1101\ 1101\ 1110\ 1101\ 1101\ 1111\ 1111\ 0110$$

$$a \text{ and } b = 0010\ 0000\ 0000\ 0000\ 0010\ 0000\ 0000\ 0001$$

$$a \text{ or } b = 1010\ 0011\ 0001\ 0110\ 0010\ 0000\ 1111\ 1011$$

$$a \text{ xor } b = 1000\ 0011\ 0001\ 0110\ 0000\ 0000\ 1111\ 1010$$

c.

kích thước a là 16 byte

kích thước b là 16 byte

d.

$$\text{bù 1 của } b = 0101\ 1110\ 1111\ 1011\ 1101\ 1111\ 0000\ 1100$$

$$\text{giá trị } b = -1593564940$$

e.

$$\text{bù 2 của } b = 0101\ 1110\ 1111\ 1011\ 1101\ 1111\ 0000\ 1101$$

$$\text{giá trị } b = -1593564941$$

f.

ý nghĩa là 22/12/2009

3.2

Bài 1

The screenshot displays the Visual Studio Code interface. The main editor window shows a C++ file named `Bai1.cpp` with the following code:

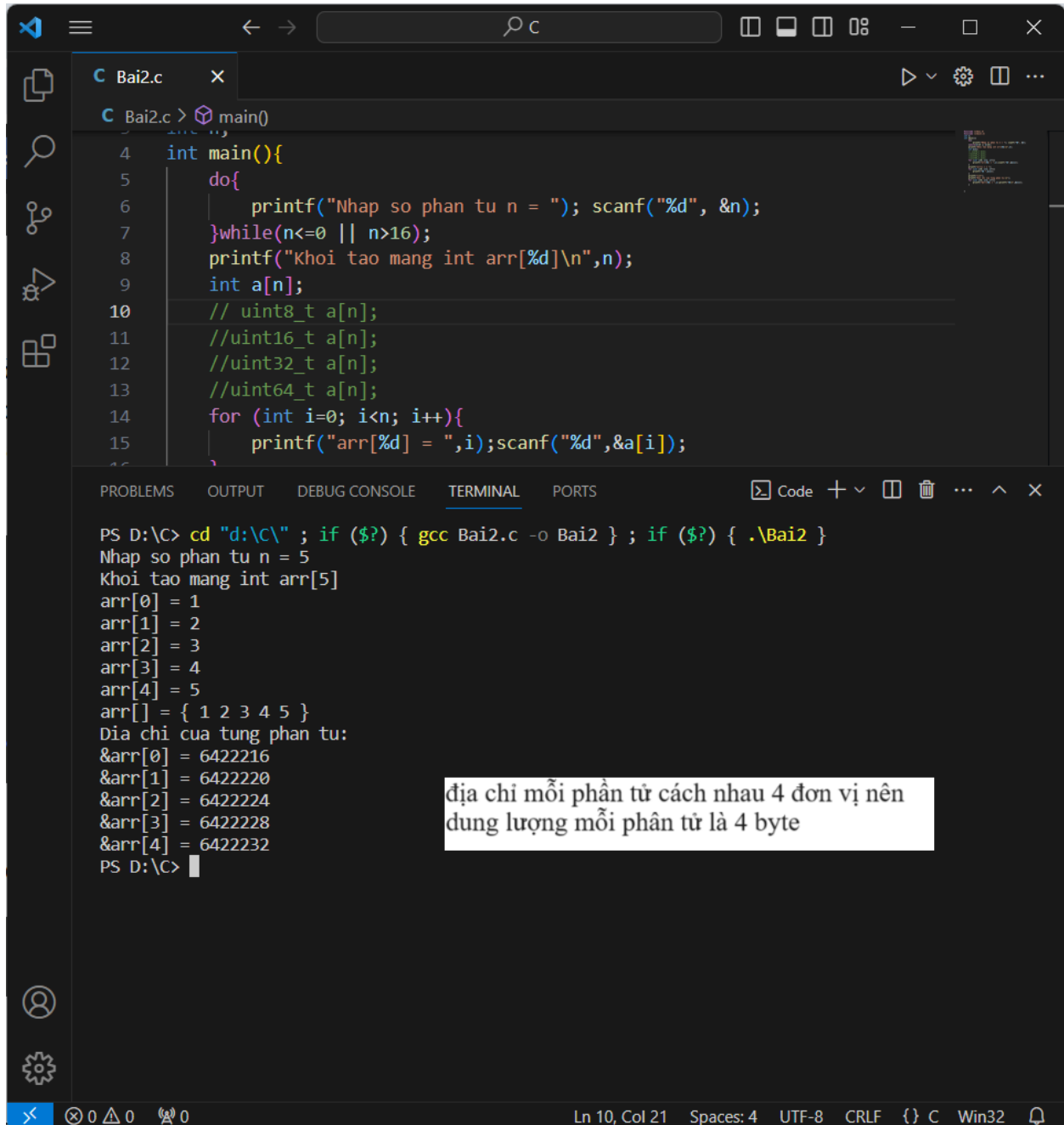
```
1 #include <stdio.h>
2 int n;
3 int main(){
4     do{
5         printf("Nhap so phan tu n = "); scanf("%d", &n);
6     }while(n<=0 || n>16);
7     printf("Khoi tao mang int arr[%d]\n",n);
8     int a[n];
9     for (int i=0; i<n; i++){
10         printf("arr[%d] = ",i);scanf("%d",&a[i]);
11     }
12     printf("arr[] = { ");
13     for (int i=0; i<n; i++){
14         printf("%d ",a[i]);
15     }
16     printf("}\n");
17     printf("Dia chi cua tung phan tu:\n");
18     for (int i=0; i<n; i++){
19         printf("&arr[%d] = ",i);printf("%d\n",&a[i]);
```

The bottom panel shows the `TERMINAL` output:

```
PS D:\C> cd "d:\C\.vscode\" ; if ($?) { g++ Bai1.cpp -o Bai1 } ; if ($?) { .\Bai1 }
Nhap so phan tu n = -4
Nhap so phan tu n = 17
Nhap so phan tu n = 5
Khoi tao mang int arr[5]
arr[0] = 3
arr[1] = -5
arr[2] = 2
arr[3] = 16
arr[4] = 22
arr[] = { 3 -5 2 16 22 }
Dia chi cua tung phan tu:
&arr[0] = 6422216
&arr[1] = 6422220
&arr[2] = 6422224
&arr[3] = 6422228
&arr[4] = 6422232
PS D:\C\.vscode>
```

Bài 2

Kiểu int



The image shows a Visual Studio Code editor window with a C program named `Bai2.c` and its execution output in the terminal.

Code in `Bai2.c`:

```
1 // Bai2.c
2 #include <stdio.h>
3
4 int main(){
5     do{
6         printf("Nhap so phan tu n = "); scanf("%d", &n);
7     }while(n<=0 || n>16);
8     printf("Khoi tao mang int arr[%d]\n",n);
9     int a[n];
10    // uint8_t a[n];
11    //uint16_t a[n];
12    //uint32_t a[n];
13    //uint64_t a[n];
14    for (int i=0; i<n; i++){
15        printf("arr[%d] = ",i);scanf("%d",&a[i]);
16    }
```

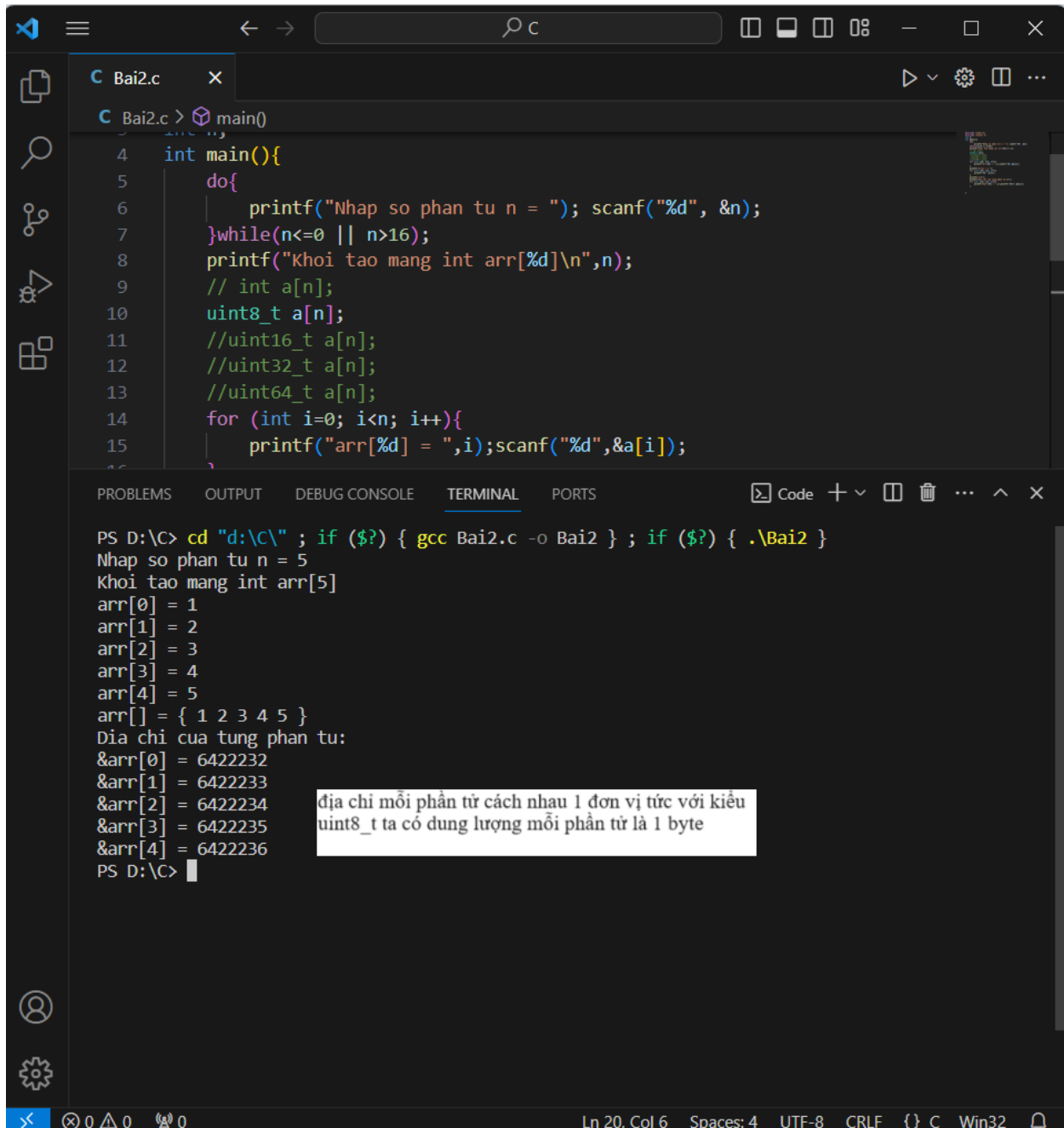
Terminal Output:

```
PS D:\C> cd "d:\c\" ; if ($?) { gcc Bai2.c -o Bai2 } ; if ($?) { .\Bai2 }
Nhap so phan tu n = 5
Khoi tao mang int arr[5]
arr[0] = 1
arr[1] = 2
arr[2] = 3
arr[3] = 4
arr[4] = 5
arr[] = { 1 2 3 4 5 }
Dia chi cua tung phan tu:
&arr[0] = 6422216
&arr[1] = 6422220
&arr[2] = 6422224
&arr[3] = 6422228
&arr[4] = 6422232
PS D:\C>
```

A text box highlights the memory addresses: `&arr[0] = 6422216`, `&arr[1] = 6422220`, `&arr[2] = 6422224`, `&arr[3] = 6422228`, and `&arr[4] = 6422232`. The text inside the box states: "địa chỉ mỗi phần tử cách nhau 4 đơn vị nên dung lượng mỗi phần tử là 4 byte".

Bài 2

Kiểu uint8_t



The screenshot shows a Visual Studio Code editor with a C program named `Bai2.c` and its execution output in the terminal.

Code in `Bai2.c`:

```
1 // ...  
2  
3  
4 int main(){  
5     do{  
6         printf("Nhap so phan tu n = "); scanf("%d", &n);  
7     }while(n<=0 || n>16);  
8     printf("Khoi tao mang int arr[%d]\n",n);  
9     // int a[n];  
10    uint8_t a[n];  
11    //uint16_t a[n];  
12    //uint32_t a[n];  
13    //uint64_t a[n];  
14    for (int i=0; i<n; i++){  
15        printf("arr[%d] = ",i);scanf("%d",&a[i]);  
16    }
```

Terminal Output:

```
PS D:\C> cd "d:\C\" ; if ($?) { gcc Bai2.c -o Bai2 } ; if ($?) { .\Bai2 }  
Nhap so phan tu n = 5  
Khoi tao mang int arr[5]  
arr[0] = 1  
arr[1] = 2  
arr[2] = 3  
arr[3] = 4  
arr[4] = 5  
arr[] = { 1 2 3 4 5 }  
Dia chi cua tung phan tu:  
&arr[0] = 6422232  
&arr[1] = 6422233  
&arr[2] = 6422234  
&arr[3] = 6422235  
&arr[4] = 6422236  
PS D:\C>
```

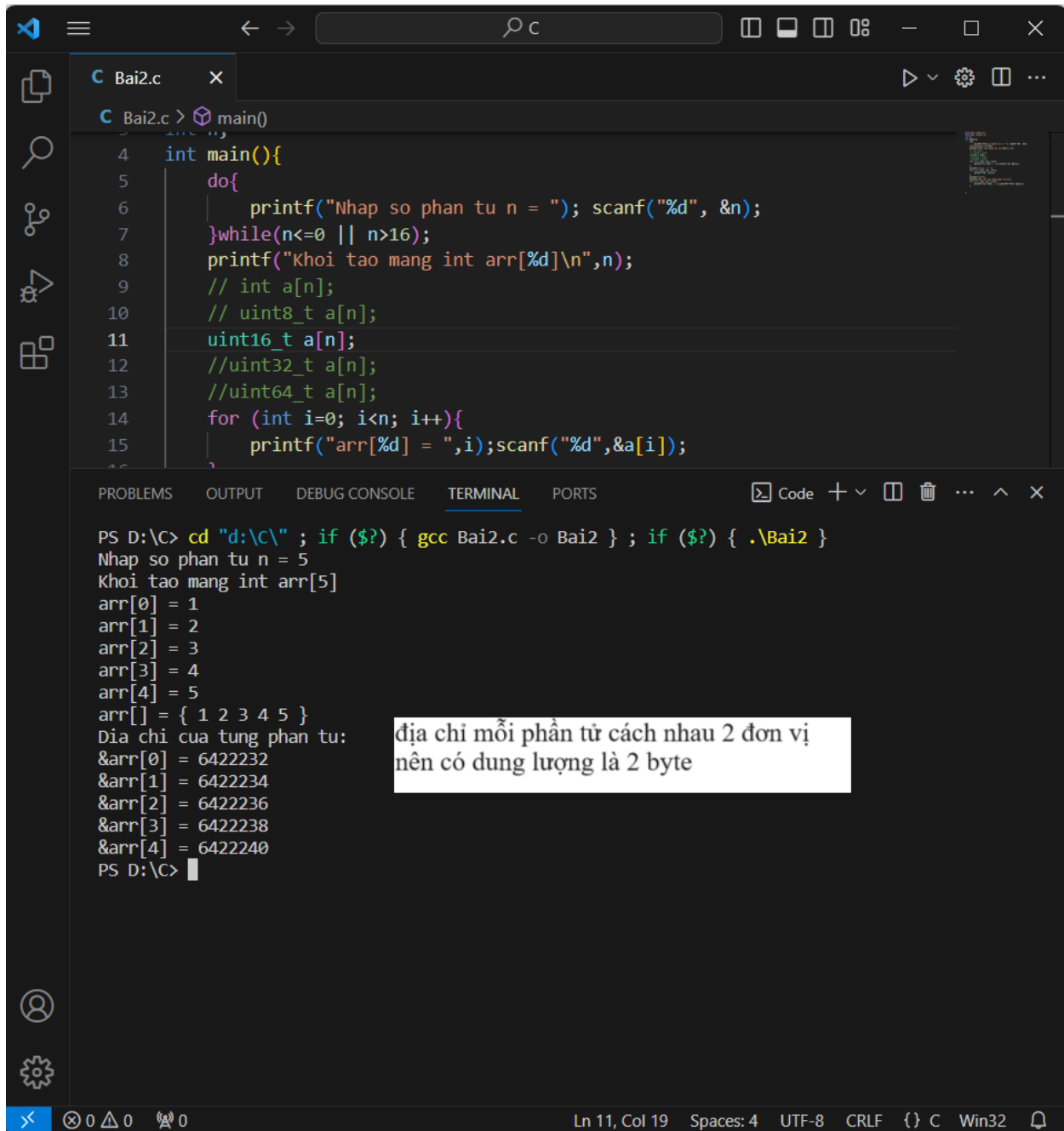
Annotation:

địa chỉ mỗi phần tử cách nhau 1 đơn vị tức với kiểu `uint8_t` ta có dung lượng mỗi phần tử là 1 byte

The status bar at the bottom indicates the current position is `Ln 20, Col 6`, with `Spaces: 4`, `UTF-8` encoding, `CRLF` line endings, and `Win32` platform.

Bài 2

Kiểu uint16_t



The image shows a Visual Studio Code editor window with a C program named `Bai2.c` and its execution output in the terminal.

Code in `Bai2.c`:

```
1 // Bai2.c
2 #include <stdio.h>
3
4 int main(){
5     do{
6         printf("Nhap so phan tu n = "); scanf("%d", &n);
7     }while(n<=0 || n>16);
8     printf("Khoi tao mang int arr[%d]\n",n);
9     // int a[n];
10    // uint8_t a[n];
11    uint16_t a[n];
12    //uint32_t a[n];
13    //uint64_t a[n];
14    for (int i=0; i<n; i++){
15        printf("arr[%d] = ",i);scanf("%d",&a[i]);
16    }
```

Terminal Output:

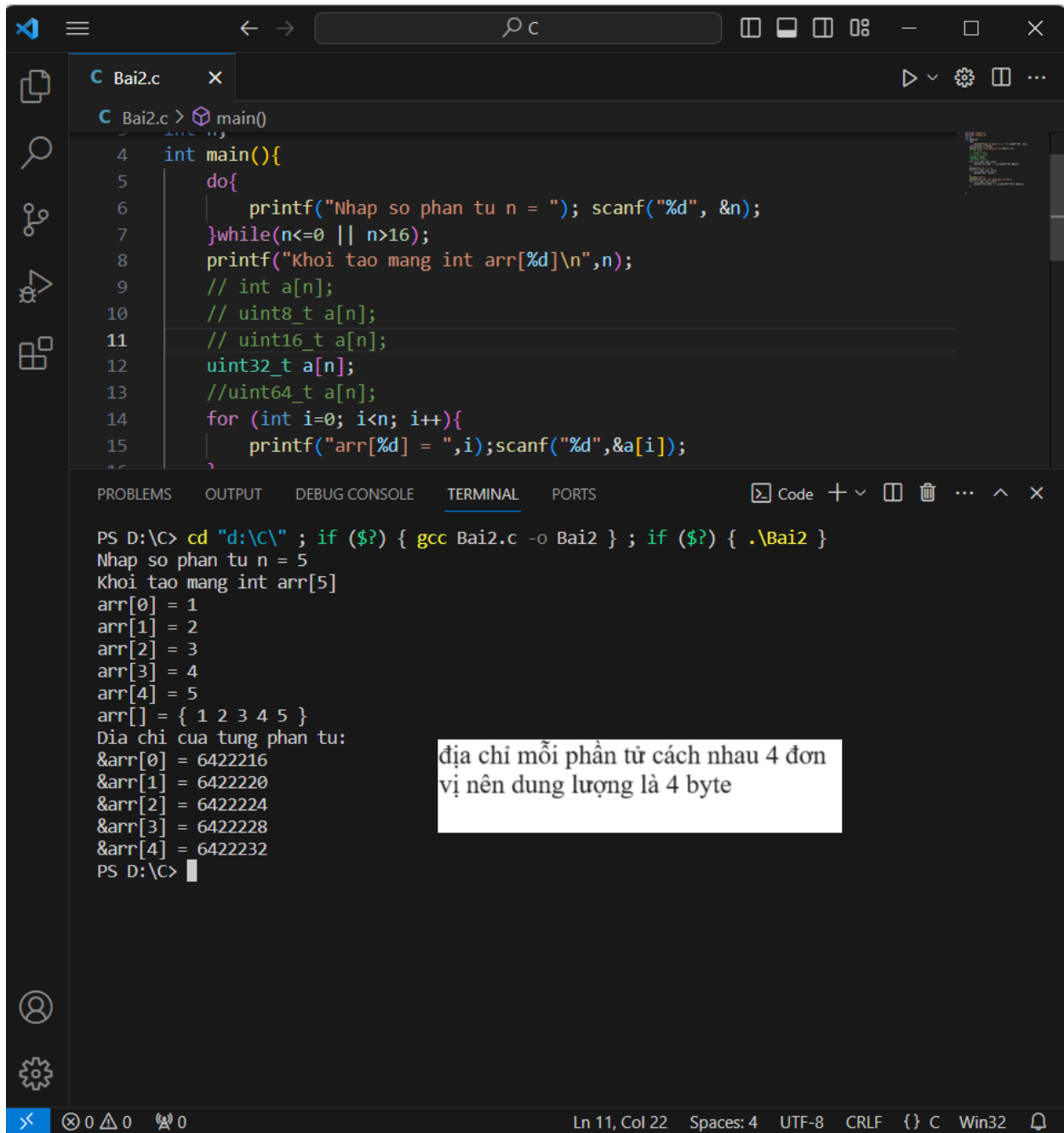
```
PS D:\C> cd "d:\C\" ; if ($?) { gcc Bai2.c -o Bai2 } ; if ($?) { .\Bai2 }
Nhap so phan tu n = 5
Khoi tao mang int arr[5]
arr[0] = 1
arr[1] = 2
arr[2] = 3
arr[3] = 4
arr[4] = 5
arr[] = { 1 2 3 4 5 }
Dia chi cua tung phan tu:
&arr[0] = 6422232
&arr[1] = 6422234
&arr[2] = 6422236
&arr[3] = 6422238
&arr[4] = 6422240
PS D:\C>
```

A text box highlights the memory addresses, stating: "địa chỉ mỗi phần tử cách nhau 2 đơn vị nên có dung lượng là 2 byte" (addresses of each element are 2 units apart, so the capacity is 2 bytes).

The status bar at the bottom shows: Ln 11, Col 19 Spaces: 4 UTF-8 CRLF {} C Win32

Bài 2

Uint32_t



The image shows a Visual Studio Code editor window with a C file named `Bai2.c`. The code defines a `main` function that prompts the user for the number of elements `n` in an array. It then declares the array using `uint32_t` and fills it with values from 1 to `n`. The terminal output shows the program's execution, including the input `5` and the resulting array values and their memory addresses.

```
C Bai2.c > main()
4 int main(){
5     do{
6         printf("Nhap so phan tu n = "); scanf("%d", &n);
7     }while(n<=0 || n>16);
8     printf("Khoi tao mang int arr[%d]\n",n);
9     // int a[n];
10    // uint8_t a[n];
11    // uint16_t a[n];
12    uint32_t a[n];
13    //uint64_t a[n];
14    for (int i=0; i<n; i++){
15        printf("arr[%d] = ",i);scanf("%d",&a[i]);
```

Terminal Output:

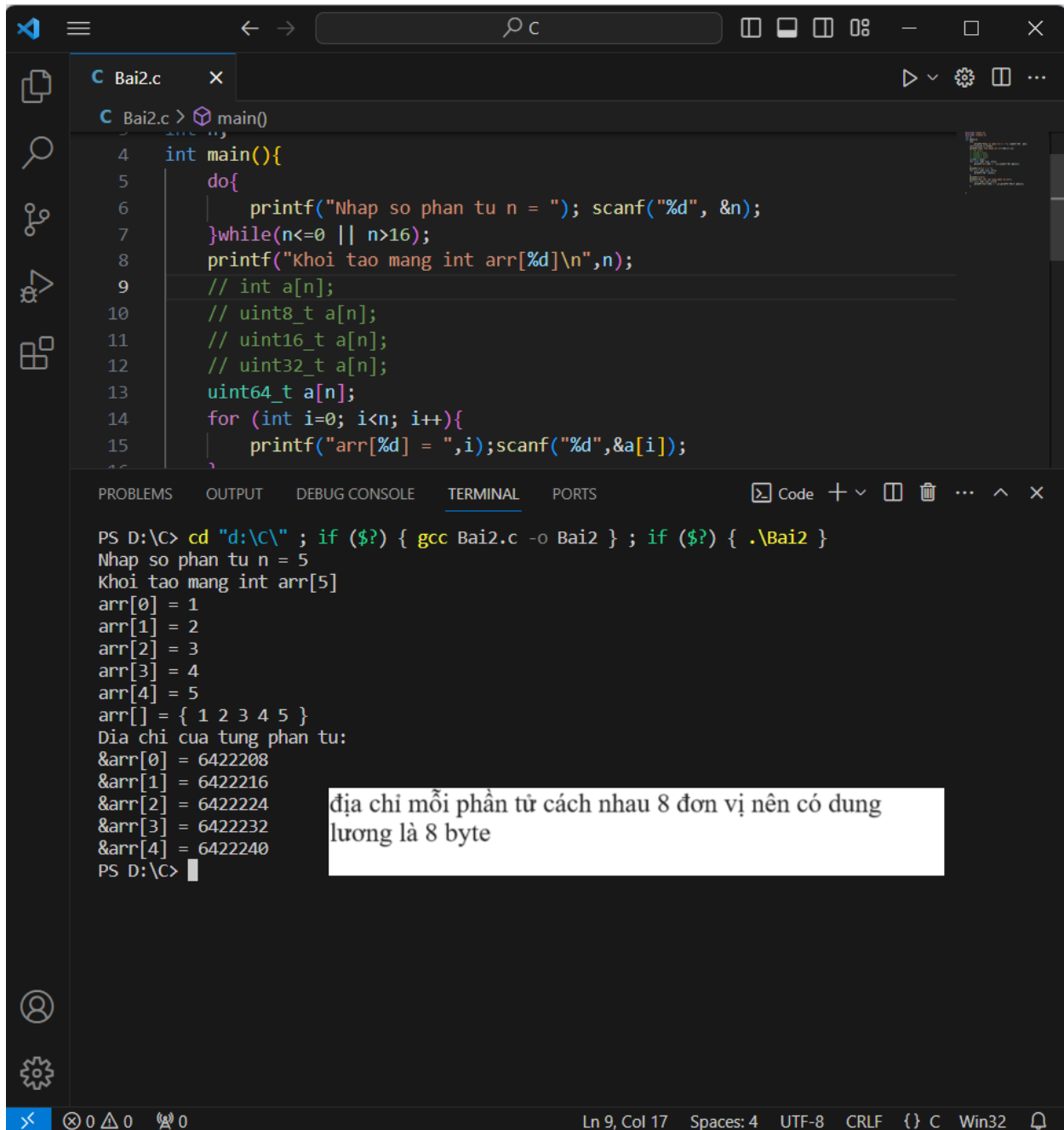
```
PS D:\C> cd "d:\C\" ; if ($?) { gcc Bai2.c -o Bai2 } ; if ($?) { .\Bai2 }
Nhap so phan tu n = 5
Khoi tao mang int arr[5]
arr[0] = 1
arr[1] = 2
arr[2] = 3
arr[3] = 4
arr[4] = 5
arr[] = { 1 2 3 4 5 }
Dia chi cua tung phan tu:
&arr[0] = 6422216
&arr[1] = 6422220
&arr[2] = 6422224
&arr[3] = 6422228
&arr[4] = 6422232
PS D:\C>
```

Địa chỉ mỗi phần tử cách nhau 4 đơn vị nên dung lượng là 4 byte

Ln 11, Col 22 Spaces: 4 UTF-8 CRLF {} C Win32

Bài 2

Kiểu uint64_t



The image shows a Visual Studio Code editor window with a C program named `Bai2.c` and its execution output in the terminal.

Code in `Bai2.c`:

```
1 // ...  
2  
3  
4 int main(){  
5     do{  
6         printf("Nhap so phan tu n = "); scanf("%d", &n);  
7     }while(n<=0 || n>16);  
8     printf("Khoi tao mang int arr[%d]\n",n);  
9     // int a[n];  
10    // uint8_t a[n];  
11    // uint16_t a[n];  
12    // uint32_t a[n];  
13    uint64_t a[n];  
14    for (int i=0; i<n; i++){  
15        printf("arr[%d] = ",i);scanf("%d",&a[i]);  
16    }
```

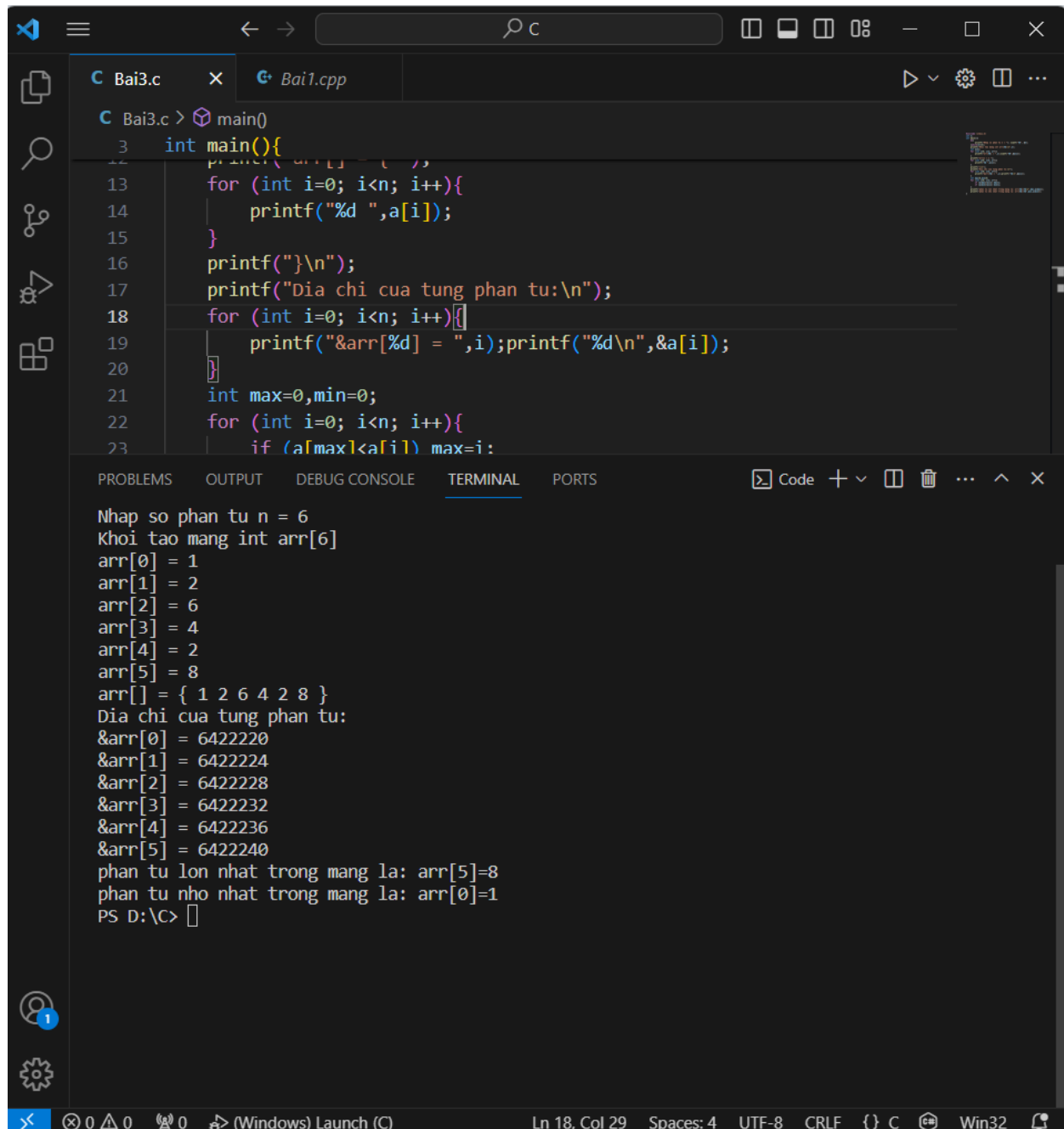
Terminal Output:

```
PS D:\C> cd "d:\C\" ; if ($?) { gcc Bai2.c -o Bai2 } ; if ($?) { .\Bai2 }  
Nhap so phan tu n = 5  
Khoi tao mang int arr[5]  
arr[0] = 1  
arr[1] = 2  
arr[2] = 3  
arr[3] = 4  
arr[4] = 5  
arr[] = { 1 2 3 4 5 }  
Dia chi cua tung phan tu:  
&arr[0] = 6422208  
&arr[1] = 6422216  
&arr[2] = 6422224  
&arr[3] = 6422232  
&arr[4] = 6422240  
PS D:\C>
```

A white text box is overlaid on the terminal output, containing the text: địa chỉ mỗi phần tử cách nhau 8 đơn vị nên có dung lượng là 8 byte

The status bar at the bottom shows: Ln 9, Col 17 Spaces: 4 UTF-8 CRLF {} C Win32

Bài 3



The image shows a Visual Studio Code editor window with a C program in `Bai3.c` and its execution output in the terminal.

Code in `Bai3.c`:

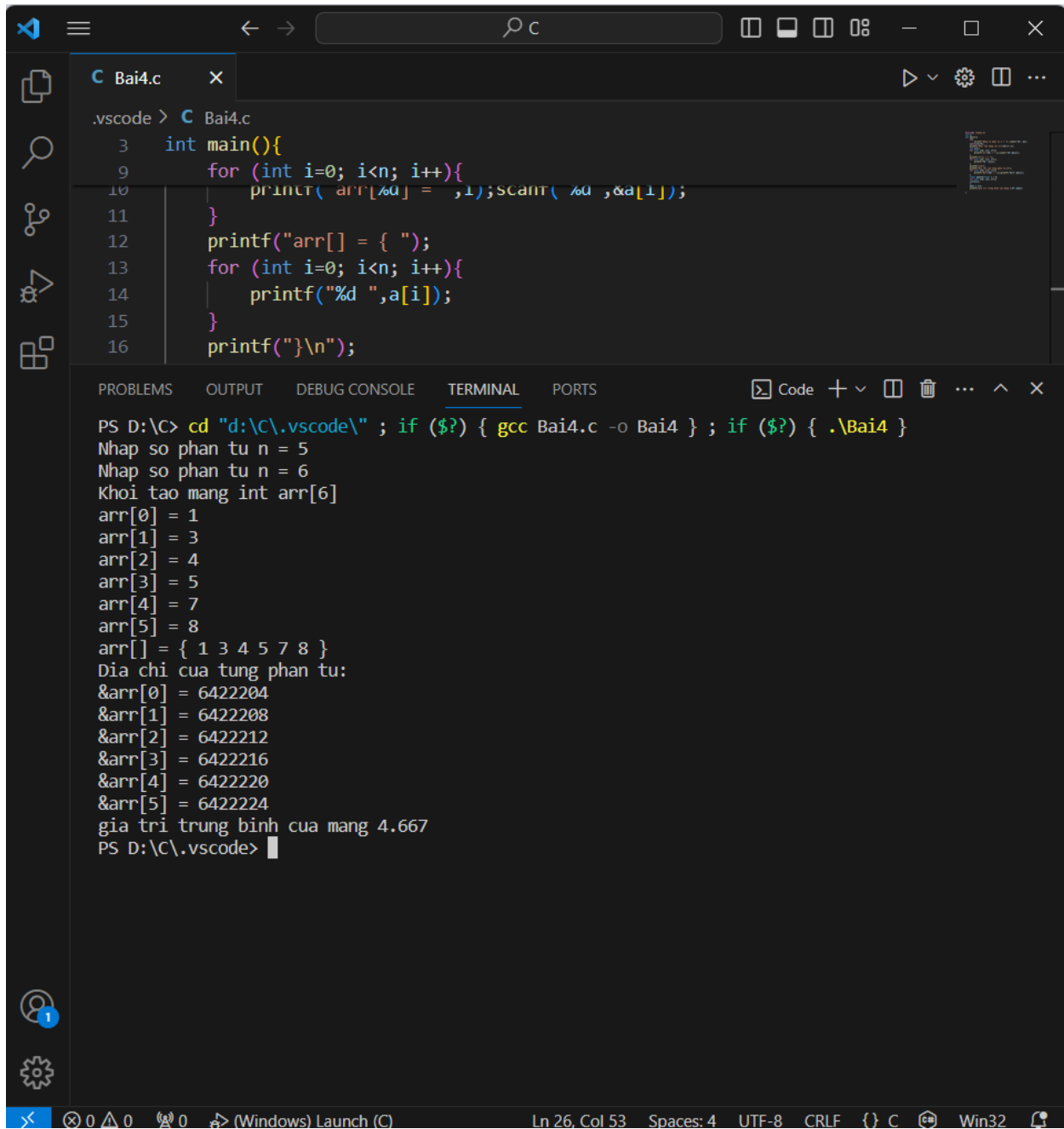
```
1  int main()
2  {
3      printf("Nhap so phan tu n = ");
4      scanf("%d", &n);
5      int arr[n];
6      printf("Khoi tao mang int arr[6]\n");
7      arr[0] = 1;
8      arr[1] = 2;
9      arr[2] = 6;
10     arr[3] = 4;
11     arr[4] = 2;
12     arr[5] = 8;
13     printf("arr[] = { 1 2 6 4 2 8 }");
14     printf("Dia chi cua tung phan tu:\n");
15     for (int i=0; i<n; i++){
16         printf("&arr[%d] = ", i); printf("%d\n", &a[i]);
17     }
18     int max=0, min=0;
19     for (int i=0; i<n; i++){
20         if (a[max]<a[i]) max=i;
21     }
22 }
```

Terminal Output:

```
Nhap so phan tu n = 6
Khoi tao mang int arr[6]
arr[0] = 1
arr[1] = 2
arr[2] = 6
arr[3] = 4
arr[4] = 2
arr[5] = 8
arr[] = { 1 2 6 4 2 8 }
Dia chi cua tung phan tu:
&arr[0] = 6422220
&arr[1] = 6422224
&arr[2] = 6422228
&arr[3] = 6422232
&arr[4] = 6422236
&arr[5] = 6422240
phan tu lon nhat trong mang la: arr[5]=8
phan tu nho nhat trong mang la: arr[0]=1
PS D:\C>
```

The status bar at the bottom indicates the file is `Bai3.c`, the cursor is at line 18, column 29, and the encoding is UTF-8.

Bài 4



The image shows a Visual Studio Code window with a C file named `Bai4.c` open. The code defines a `main` function that takes an integer `n` as input, initializes an array `arr` of size `n+1`, and prints the elements of the array. The terminal output shows the program being compiled and executed, with the input `n=5` and `n=6` being processed. The array elements are printed as `1 3 4 5 7 8`, and the average value of the array is calculated as `4.667`.

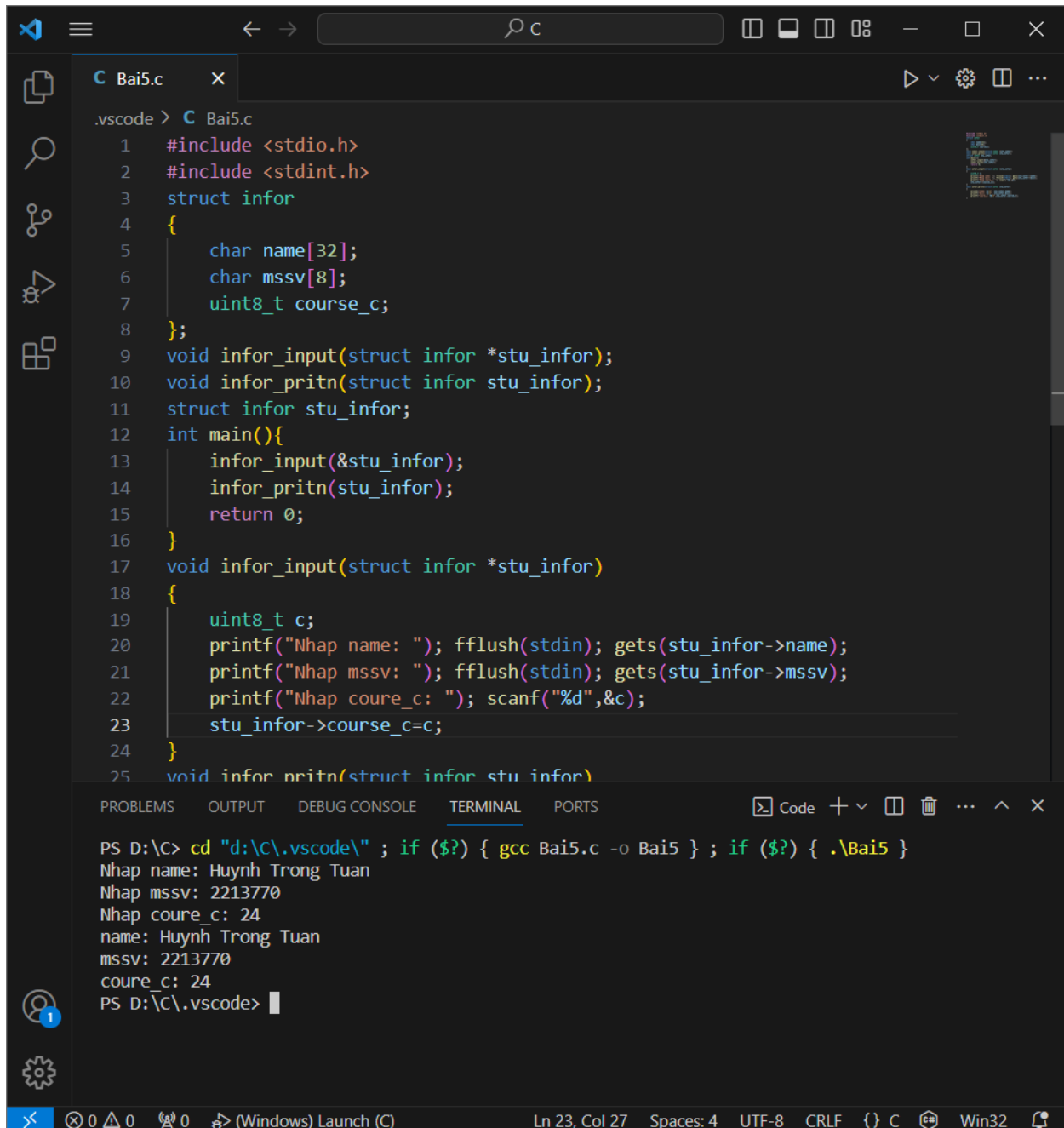
```
.vscode > C Bai4.c

3  int main(){
9      for (int i=0; i<n; i++){
10         printf("arr[%d] = ", i); scanf("%d", &a[i]);
11     }
12     printf("arr[] = { ");
13     for (int i=0; i<n; i++){
14         printf("%d ", a[i]);
15     }
16     printf("}\n");
```

```
PS D:\C> cd "d:\C\.vscode\" ; if ($?) { gcc Bai4.c -o Bai4 } ; if ($?) { .\Bai4 }
Nhap so phan tu n = 5
Nhap so phan tu n = 6
Khoi tao mang int arr[6]
arr[0] = 1
arr[1] = 3
arr[2] = 4
arr[3] = 5
arr[4] = 7
arr[5] = 8
arr[] = { 1 3 4 5 7 8 }
Dia chi cua tung phan tu:
&arr[0] = 6422204
&arr[1] = 6422208
&arr[2] = 6422212
&arr[3] = 6422216
&arr[4] = 6422220
&arr[5] = 6422224
gia tri trung binh cua mang 4.667
PS D:\C\.vscode>
```

Ln 26, Col 53 Spaces: 4 UTF-8 CRLF {} C Win32

Bài 5



The image shows a Visual Studio Code editor window with a C file named `Bai5.c`. The code defines a `struct infor` with fields `name`, `mssv`, and `course_c`. It includes functions `infor_input` and `infor_pritn` to handle user input and output. The `main` function calls these functions. The terminal at the bottom shows the compilation and execution of the program, with user input for name, mssv, and course number.

```
.vscode > C Bai5.c
1  #include <stdio.h>
2  #include <stdint.h>
3  struct infor
4  {
5      char name[32];
6      char mssv[8];
7      uint8_t course_c;
8  };
9  void infor_input(struct infor *stu_infor);
10 void infor_pritn(struct infor stu_infor);
11 struct infor stu_infor;
12 int main(){
13     infor_input(&stu_infor);
14     infor_pritn(stu_infor);
15     return 0;
16 }
17 void infor_input(struct infor *stu_infor)
18 {
19     uint8_t c;
20     printf("Nhap name: "); fflush(stdin); gets(stu_infor->name);
21     printf("Nhap mssv: "); fflush(stdin); gets(stu_infor->mssv);
22     printf("Nhap coure_c: "); scanf("%d",&c);
23     stu_infor->course_c=c;
24 }
25 void infor_pritn(struct infor stu_infor)
```

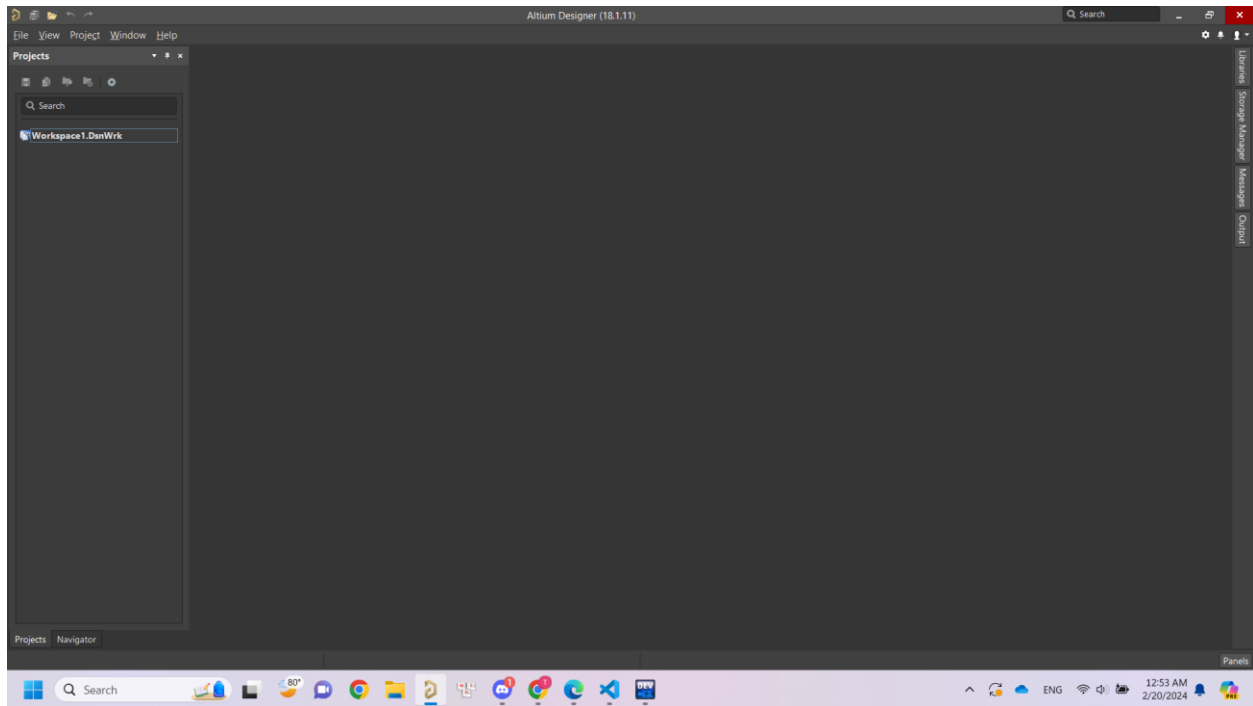
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS D:\C> cd "d:\C\.vscode\" ; if ($?) { gcc Bai5.c -o Bai5 } ; if ($?) { .\Bai5 }
Nhap name: Huynh Trong Tuan
Nhap mssv: 2213770
Nhap coure_c: 24
name: Huynh Trong Tuan
mssv: 2213770
coure_c: 24
PS D:\C\.vscode>
```

Ln 23, Col 27 Spaces: 4 UTF-8 CRLF {} C Win32

3.3

3.4



3.5

The screenshot shows a web browser displaying the GitHub repository page for 'PIF_Project_C24' by user 'TuanHuynhiron'. The browser's address bar shows the URL 'github.com/TuanHuynhiron/PIF_Project_C24'. The repository page includes a header with the repository name, a search bar, and navigation links for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. Below the header, there are buttons for Pin, Unwatch (1), Fork (0), and Star (0). The main content area features a file list for the 'main' branch, showing files like 'C24_Project/SPITEST', 'Pre_AfterC24_Exercise', 'Pre_AfterC24_Report.pdf', and 'README.md'. A 'README' section is visible below the file list, containing the title 'PIF_Project_C24' and a description: 'Final project of course PIF-C24 and submission of Pre-AfterC24'. On the right side, there is an 'About' section with a description of the project, and sections for 'Releases' (no releases published) and 'Packages' (no packages published). The bottom of the page shows a taskbar with various application icons and a system clock indicating 4:02 AM.

TuanHuynhiron / PIF_Project_C24

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

PIF_Project_C24 Public

Pin Unwatch 1 Fork 0 Star 0

main Go to file Code

TuanHuynhiron Update Final Project C24 and submissio... 1863406 · now 3 Commits

C24_Project/SPITEST	Update Final Project C24 and sub...	1 hour ago
Pre_AfterC24_Exercise	Update Final Project C24 and sub...	now
Pre_AfterC24_Report.pdf	Update Final Project C24 and sub...	now
README.md	Initial commit	yesterday

README

PIF_Project_C24

Final project of course PIF-C24 and submission of Pre-AfterC24

About

Final project of course PIF-C24 and submission of Pre-AfterC24

Readme Activity 0 stars 1 watching 0 forks

Releases

No releases published
[Create a new release](#)

Packages

No packages published
[Publish your first package](#)

Languages

4:02 AM