1) What is the output of the following code?

#include <stdio.h>

int main()

{

int x = 5;

int \*p;

p = &x;

printf("%d", \*p);

return 0;

}

a) 5

b) &x

c) \*p

d) 0

Answer: a) 5

Explanation: The code declares an integer variable x with a value of 5, and a pointer variable p. The pointer variable p is then assigned the address of the integer variable x using the & operator. The value of the integer variable x is printed using the dereference operator \*.

2) What is the output of the following code?

#include <stdio.h>

int main()

{

int a[] = {1, 2, 3, 4, 5};

int \*p = a;

printf("%d", \*(p+3));

return 0;

}

a) 1

b) 2

c) 3

d) 4

Answer: d) 4

Explanation: The code declares an integer array a with 5 elements, and a pointer variable p that points to the first element of the array. The value of the fourth element in the array is then printed using the pointer arithmetic expression \*(p+3).

3)What is the output of the following code?

#include <stdio.h>

int main()

{

int a[] = {1, 2, 3, 4, 5};

int \*p = a;

\*(p+2) = 10;

printf("%d", \*(a+2));

return 0;

}

a) 1

b) 2

c) 3

d) 10

Answer: d) 10

Explanation: The code declares an integer array a with 5 elements, and a pointer variable p that points to the first element of the array. The third element of the array is then modified to 10 using the pointer arithmetic expression \*(p+2), and the value of the third element is printed using the array notation a[2].

4) What is the output of the following code?

#include <stdio.h>

int main()

{

int a[] = {1, 2, 3, 4, 5};

int \*p = a+2;

printf("%d", \*(p-1));

return 0;

}

a) 1

b) 2

c) 3

d) 4

Answer: b) 2

Explanation: The code declares an integer array a with 5 elements, and a pointer variable p that points to the third element of the array using pointer arithmetic expression a+2. The value of the second element of the array is then printed using the pointer arithmetic expression \*(p-1).

5) What is the output of the following code?

#include <stdio.h>

int main()

{

int a[] = {1, 2, 3, 4, 5};

int \*p = a+4;

printf("%d", \*(p-2));

return 0;

}

a) 3

b) 4

c) 5

d) 6

Answer: b) 4

Explanation: The code declares an integer array a with 5 elements, and a pointer variable p that points to the last element of the array using pointer arithmetic expression a+4. The value of the third element of the array is then printed using the pointer arithmetic expression \*(p-2).

6) What is the output of the following code?

#include <stdio.h>

int main()

{

int a = 5;

int \*p = &a;

printf("%d", \*p);

\*p = 10;

printf("%d", a);

return 0;

}

a) 5 5

b) 10 10

c) 5 10

d) 10 5

Answer: c) 5 10

Explanation: The code declares an integer variable a with a value of 5, and a pointer variable p that points to the address of the integer variable a using the & operator. The value of the integer variable a is printed using the dereference operator \*. The value of the integer variable a is then modified to 10 using the dereference operator \*p. The value of the integer variable a is printed again, which is now 10.

7) What is the output of the following code?

#include <stdio.h>

int main()

{

int x = 5;

int \*p1, \*\*p2;

p1 = &x;

p2 = &p1;

printf("%d", \*\*p2);

return 0;

}

a) 5

b) &x

c) \*p1

d) \*\*p2

Answer: a) 5

Explanation: The code declares an integer variable x with a value of 5, a pointer variable p1 that points to the address of the integer variable x, and a double pointer variable p2 that points to the address of the pointer variable p1. The value of the integer variable x is printed using the double dereference operator \*\*p2.

8) What is the output of the following code?

#include <stdio.h>

int main()

{

int a[] = {1, 2, 3, 4, 5};

int \*p = a+1;

int \*\*p2 = &p;

printf("%d", \*\*p2);

return 0;

}

a) 1

b) 2

c) 3

d) 4

Answer: b) 2

Explanation: The code declares an integer array a with 5 elements, a pointer variable p that points to the second element of the array using pointer arithmetic expression a+1, and a double pointer variable p2 that points to the address of the pointer variable p. The value of the second element of the array is printed using the double dereference operator \*\*p2.

9) What is the output of the following code?

#include <stdio.h>

int main()

{

int a[] = {1, 2, 3, 4, 5};

int \*p = a+1;

int \*\*p2 = &p;

\*\*p2 = 10;

printf("%d", a[1]);

return 0;

}

a) 1

b) 2

c) 3

d) 10

Answer: d) 10

Explanation: The code declares an integer array a with 5 elements, a pointer variable p that points to the second element of the array using pointer arithmetic expression a+1, and a double pointer variable p2 that points to the address of the pointer variable p. The value of the second element of the array is then modified to 10 using the double dereference operator \*\*p2, and the value of the second element of the array is printed using the array notation a[1].

10) What is the output of the following code?

#include <stdio.h>

int main()

{

int a[] = {1, 2, 3, 4, 5};

int \*p = a;

int sum = 0;

for(int i = 0; i < 5; i++)

{

sum += \*p;

p++;

}

printf("%d", sum);

return 0;

}

a) 1

b) 10

c) 15

d) 20

Answer: c) 15

Explanation: The code declares an integer array a with 5 elements, a pointer variable p that points to the first element of the array, and an integer variable sum initialized to 0. A for loop is used to iterate through the array and add each element to the sum using the dereference operator \*. The sum of all elements in the