R VEDHA VISALAKSHI

NPTEL ASSIGNMENT -

Problem Solving Through Programming In C

WEEK 6 – MCQ QUIZ

Week 6 : Assignment 6

The due date for submitting this assignment has passed.

Due on 2023-09-06, 23:59 IST.

Assignment submitted on 2023-09-06, 21:58 IST

1) What is an array in C? ***1 point***

- (●) a) A collection of similar data elements with the same data type.
- ( ) b) A built-in function that performs mathematical calculations.
- ( ) c) A keyword used for declaring variables.
- ( ) d) A data type used to store characters only.

Yes, the answer is correct.
Score: 1
Accepted Answers:
a) A collection of similar data elements with the same data type.

2) What is the index of the first element in an array? ***1 point***

- (●) a) 0
- ( ) b) 1
- ( ) c) -1
- ( ) d) The index can vary depending on the array size.

Yes, the answer is correct.
Score: 1
Accepted Answers:
a) 0

3) Which loop is commonly used to iterate through all elements of an array in C? ***1 point***

- (●) a) for loop
- ( ) b) while loop
- ( ) c) do-while loop
- ( ) d) switch loop

Yes, the answer is correct.
Score: 1
Accepted Answers:
a) for loop

4) An integer array of 15 elements is declared in a C program. The memory location of the first byte of the array is 2000. What will be the location of the 13th element of the array? Assume int takes 2 bytes of memory. ***1 point***

- ( ) a) 2013
- (●) b) 2024
- ( ) c) 2026
- ( ) d) 2030

Yes, the answer is correct.
Score: 1
Accepted Answers:
b) 2024

5) 1 point

How can you find the sum of all elements in a 1D array "arr" with 5 elements using loop in C?

a) sum = arr[0] + arr[1] + arr[2] + arr[3] + arr[4];
b) sum = arr[5];
c) for (int i = 0; i <= 5; i++) { sum += arr[i]; }
d) for (int i = 0; i < 5; i++) { sum += arr[i]; }

- Option (a)
- Option (b)
- Option (c)
- Option (d)

Yes, the answer is correct.
Score: 1

Accepted Answers:
Option (d)

6) 1 point

What is the output of the following code?

```
#include <stdio.h>
int main()
{
int arr[] = {1, 2, 3, 4, 5};
int i = 0;
while (i < 5) {
   printf("%d ", arr[i]);
   i += 2;}
return 0;
}
```

- a) 1 3 5
- b) 1 2 3 4 5
- c) 1 2 3
- d) 1 4

Yes, the answer is correct.
Score: 1

Accepted Answers:
a) 1 3 5

7) *1 point*

What will be the output?

```
#include <stdio.h>
int main()
{
   int arr[]={1,2,3,4,5,6};
   int i,j,k;
   j=++arr[2];
   k=arr[1]++;
   i=arr[j++];
   printf("i=%d, j=%d, k=%d", i, j, k);
return 0;
}
```

- a) i=5, j=5, k=2
- b) i=6, j=5, k=3
- c) i=6, j=4, k=2
- d) i=5, j=4, k=2

Yes, the answer is correct.
Score: 1

Accepted Answers:
a) i=5, j=5, k=2

8) *1 point*

What will be the output after execution of the program?

```
#include <stdio.h>
int main()
{
   int i, a[4]={3,1,2,4}, result;
   result=a[0];
   for(i=1; i<4; i++)
   {
    if(result>a[i])
    continue;
    result=a[i];
    }
    printf("%d", result);
   return 0;
}
```

- a) 1
- b) 2
- c) 3
- d) 4

Yes, the answer is correct.
Score: 1
Accepted Answers:
d) 4

9)

What will be the output?

```
#include<stdio.h>
int main()
{
int n = 2;
int sum = 5;
switch(n)
{
        case 2: sum = sum-3;
        case 3: sum*=4;
        break;
        default:
          sum =0;

}
printf("%d", sum);
   return 0;
}
```

8

Hint

Yes, the answer is correct.
Score: 1
Accepted Answers:
(Type: Numeric) 8

1 point

10) *1 point*

Find the output of the following C program

```
#include<stdio.h>
int main()
{
        int a;
        int arr[5] = {1, 2, 3, 4, 5};
        arr[1] = ++arr[1];
        a = arr[1]++;
        arr[1] = arr[a++];
        printf("%d, %d", a, arr[1]);
        return 0;
}
```

- a) 5, 4
- b) 5, 5
- c) 4, 4
- d) 3, 4

Yes, the answer is correct.
Score: 1
Accepted Answers:
c) 4, 4

WEEK 6 – PROGRAMMING ASSIGNMENT

Week 6 : Programming Assignment 1

Due on 2023-09-07, 23:59 IST

Write a C Program to find Largest Element of an Integer Array.
Here the number of elements in the array 'n' and the elements of the array is read from the test data.
Use the printf statement given below to print the largest element.

printf("Largest element = %d", largest);

Sample Test Cases

	Input	Output
Test Case 1	4 -400 -800 -700 -50	Largest element = -50
Test Case 2	7 60 70 200 12 40 -90 60	Largest element = 200
Test Case 3	5 10 50 40 30 20	Largest element = 50
Test Case 4	7 100 50 60 70 90 30 40	Largest element = 100

The due date for submitting this assignment has passed.

0 out of 0 tests passed.
You scored 0.0/100.

Assignment submitted on 2023-09-06, 22:05 IST

Your last recorded submission was :

```c
#include <stdio.h>

int main()
{
    int i, n, largest;
    int arr[100];

    scanf("%d", &n); /*Accepts total number of elements from the test data */

 for(i = 0; i < n; ++i)
    {
       scanf("%d", &arr[i]); /* Accepts the array element from test data */
    }
int largest;
for(i = 0; i < n; ++i)
    {
   if(arr[i]>arr[i+1]{
     largest=arr[i]
     printf("Largest element = %d", largest);
   }
    }
return 0;
}
```

Week 6 : Programming Assignment 2

Due on 2023-09-07, 23:59 IST

Write a C Program to print the array elements in reverse order (Not reverse sorted order. Just the last element will become first element, second last element will become second element and so on)
Here the size of the array, 'n' and the array elements is accepted from the test case data. The last part i.e. printing the array is also written.
You have to complete the program so that it prints in the reverse order.

Private Test cases used for evaluation	Input	Expected Output	Actual Output	Status
Test Case 1	5 10 20 30 40 50	50\n 40\n 30\n 20\n 10	50\n 40\n 30\n 20\n 10\n	Passed
Test Case 2	6 41 42 43 44 45 46	46\n 45\n 44\n 43\n 42\n 41	46\n 45\n 44\n 43\n 42\n 41\n	Passed

The due date for submitting this assignment has passed.
2 out of 2 tests passed.
You scored 100.0/100.

Assignment submitted on 2023-09-06, 22:17 IST
Your last recorded submission was :

```c
#include<stdio.h>

int main() {
   int arr[20], i, n;

   scanf("%d", &n); /* Accepts the number of elements in the array */

  for (i = 0; i < n; i++)
     scanf("%d", &arr[i]); /*Accepts the elements of the array */
int j, temp;
j = i - 1;
i = 0;

   while (i < j) {
      temp = arr[i];
      arr[i] = arr[j];
      arr[j] = temp;
      i++;
      j--;
   }
for (i = 0; i < n; i++) {
      printf("%d\n", arr[i]); // For printing the array elements
   }

   return (0);
}
```

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Week 6 : Programming Assignment 3

Due on 2023-09-07, 23:59 IST

Write a C program to read Two One Dimensional Arrays of same data type (integer type) and merge them into another One Dimensional Array of same type.

Private Test cases used for evaluation	Input	Expected Output	Actual Output	Status
Test Case 1	3 15 45 25 3 60 70 80	15\n 45\n 25\n 60\n 70\n 80	15\n 45\n 25\n 60\n 70\n 80\n	Passed
Test Case 2	4 90 80 10 30 2 25 75	90\n 80\n 10\n 30\n 25\n 75	90\n 80\n 10\n 30\n 25\n 75\n	Passed

The due date for submitting this assignment has passed.
2 out of 2 tests passed.
You scored 100.0/100.

Assignment submitted on 2023-09-06, 22:20 IST

Your last recorded submission was :

```c
#include<stdio.h>
int main()
{
   int arr1[20], arr2[20], array_new[40], n1, n2, size, i;
 /*n1 size of first array (i.e. arr1[]), n2 size of second array(i.e. arr2[]),
   size is the total size of the new array (array_new[]) */

   scanf("%d", &n1); //Get the size of first array from test data and store it in n1.

   for (i = 0; i < n1; i++)
      scanf("%d", &arr1[i]); //Accepts the values for first array

   scanf("%d", &n2); //Get the size of second array from test data and store it in n2.

   for (i = 0; i < n2; i++)
      scanf("%d", &arr2[i]); //Accepts the values for second array

//Marge two arrays
int j;
for (i=0;i<n1;++i)
array_new[i]=arr1[i];

size =  n1 + n2;

for(i=0, j=n1; j<size && i<n2; ++i, ++j)
array_new[j] = arr2[i];
//Printing after merging

for (i = 0; i < size; i++) {
      printf("%d\n", array_new[i]);
   }

}
```

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Week 6 : Programming Assignment 4

Due on 2023-09-07, 23:59 IST

Write a C Program to delete duplicate elements from an array of integers.

Private Test cases used for evaluation	Input	Expected Output	Actual Output	Status
Test Case 1	6 50 6 7 7 2 7	50\n 6\n 7\n 2	50\n 6\n 7\n 2\n	Passed
Test Case 2	7 2 4 2 6 4 2 4	2\n 4\n 6	2\n 4\n 6\n	Passed

The due date for submitting this assignment has passed.
2 out of 2 tests passed.
You scored 100.0/100.

Assignment submitted on 2023-09-06, 22:22 IST

Your last recorded submission was :

```c
#include<stdio.h>

int main()
{
   int array[50], i, size;

   scanf("%d", &size); /*Accepts the size of array from test case data */

   for (i = 0; i < size; i++)
   scanf("%d", &array[i]); /* Read the array elements from the test case data */
int j, k;
   for (i = 0; i< size; i++) {
      for (j = i + 1; j < size;) {
         if (array[j] == array[i]) {
            for (k = j; k < size; k++) {
               array[k] = array[k + 1];
            }
            size--;
         } else
j++;
      }
   }
for (i = 0; i < size; i++) {
      printf("%d\n", array[i]);
   }

}
```