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Unit 12 - Week 10

Assignment 10

The due date for submitting this assignment has passed. Due on 2020-04-08, 23:59 IST.
As per our records you have not submitted this assignment.

1) In ……, search start at the beginning of the list and check every element in the list. ***1 point***

- a) Linear search
- b) Binary search
- c) Hash search
- d) Binary tree search

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) Linear search

2) Bisection method is used to find ***1 point***

- a) Derivative of a function at a given point
- b) Numerical integration of a function within a range
- c) Root of a function
- d) None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
c) Root of a function

3) How can you improve the best-case efficiency in bubble sort? (The input is already sorted) ***1 point***

a)
```
boolean swapped = false;
for(int j=arr.length-1; j>=0 && swapped; j--)
{
        swapped = true;
        for(int k=0; k<j; k++)
        {
                if(arr[k] > arr[k+1])
                {
                        int temp = arr[k];
                        arr[k] = arr[k+1];
                        arr[k+1] = temp;
                        swapped = false;
                }
        }
}
```

b)
```
boolean swapped = true;
for(int j=arr.length-1; j>=0 && swapped; j--)
{
        swapped = false;
        for(int k=0; k<j; k++)
        {
                if(arr[k] > arr[k+1])
                {
                        int temp = arr[k];
                        arr[k] = arr[k+1];
                        arr[k+1] = temp;
                }
        }
}
```

c)
```
boolean swapped = true;
for(int j=arr.length-1; j>=0 && swapped; j--)
{
        swapped = false;
        for(int k=0; k<j; k++)
        {
                if(arr[k] > arr[k+1])
                {
                        int temp = arr[k];
                        arr[k] = arr[k+1];
                        arr[k+1] = temp;
                        swapped = true;
                }
        }
}
```

d)
```
boolean swapped = true;
for(int j=arr.length-1; j>=0 && swapped; j--)
{
        for(int k=0; k<j; k++)
        {
                if(arr[k] > arr[k+1])
                {
                        int temp = arr[k];
                        arr[k] = arr[k+1];
                        arr[k+1] = temp;
                        swapped = true;
                }
        }
}
```

No, the answer is incorrect.
Score: 0

Accepted Answers:

c)
```
boolean swapped = true;
for(int j=arr.length-1; j>=0 && swapped; j--)
{
        swapped = false;
        for(int k=0; k<j; k++)
        {
                if(arr[k] > arr[k+1])
                {
                        int temp = arr[k];
                        arr[k] = arr[k+1];
                        arr[k+1] = temp;
                        swapped = true;
                }
        }
}
```

4) ***0 points***

If for a real continuous function $f(x)$, $f(a) \times f(b) > 0$, then in the range of [a,b] for $f(x) = 0$, there is (are)

- a) Exactly one root
- b) no root exists
- c) at least one root
- d) roots are undermined

No, the answer is incorrect.
Score: 0

Accepted Answers:
b) no root exists

5)

Assuming an initial range [1,5], the second (at the end of 2 iterations) iterative value of the root of $te^{-t} - 0.3 = 0$ using the bisection method is (Note: you need to find the root, not the function value)

Hint

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 2

1 point

6) What is the output? ***1 point***

```
#include <stdio.h>
int main()
{
    char *s = "programming";
    char *p = s;
    printf("%c,%c", *(p + 3), s[3]);
    return 0;
}
```

- a) o,o
- b) p,g
- c) g,g
- d) g,r

No, the answer is incorrect.
Score: 0

Accepted Answers:
c) g,g

7) ***1 point***

What will be output when you will execute following C code?

```
#include<stdio.h>
int main()
{
    short num[3][2]={2,5,11,17,23,28};
    printf("%d,%d",*(num+2)[0],**(num+1));
    return 0;
}
```

- a) 23,11
- b) 23,23
- c) 11,17
- d) 17,17

No, the answer is incorrect.
Score: 0

Accepted Answers:
a) 23,11

8) ***1 point***

Find the output of the C code given below

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

- a) 2
- b) 4
- c) 7
- d) 5

No, the answer is incorrect.
Score: 0

Accepted Answers:
d) 5

9)

Find the output of the following program

```
#include <stdio.h>
int main()
{
   int *ptr, a = 7;
   ptr = &a;
   *ptr  =*ptr - 2;
   printf("%d,%d ", *ptr, a);
   return 0;
}
```

Hint

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) 5,5

1 point

10)

What is the solution of the equation given below using Bisection Method upto four decimal places? (Consider the root lying on positive quadrant only and compute the root till five iterations only)

$$f(x) = xe^{2x} - 3x^2 - 5$$

Hint

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 1.0312

1 point