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Course outline

How does an NPTEL online course work? ()

Week 0 : ()

Week 1 ()

Week 2 ()

Week 3 ()

Week 4 ()

Week 5 ()

Week 6 ()

Week 7 ()

Week 8 ()

Week 9 : Assignment 9

The due date for submitting this assignment has passed.

Due on 2023-09-27, 23:59 IST.

Assignment submitted on 2023-09-26, 18:21 IST

1) What is the worst case complexity of selection sort? ***1 point***

- a) O(nlogn)
- b) O(logn)
- c) O(n)
- d) $O(n^2)$

Yes, the answer is correct.
Score: 1

Accepted Answers:
d) $O(n^2)$

2) What is the best case and worst case complexity of ordered linear search? ***1 point***

- a) O(nlogn), O(logn)
- b) O(logn), O(nlogn)
- c) O(n), O(1)
- d) O(1), O(n)

Yes, the answer is correct.
Score: 1

Accepted Answers:
d) O(1), O(n)

3) Given an array arr = {12, 34, 47, 62, 85, 92, 95, 99,105} and key = 34; what are the mid values (corresponding array elements) generated in the first and second iterations? ***1 point***

a) 85 and 12
b) 85 and 34
c) 62 and 34
d) 62 and 47

Yes, the answer is correct.
Score: 1
Accepted Answers:
b) 85 and 34

4) When the Binary search is best applied to an array? ***1 point***

a) For very large size array
b) When the array is sorted
c) When the array elements are mixed data type
d) When the array is unsorted

Yes, the answer is correct.
Score: 1
Accepted Answers:
b) When the array is sorted

5) Consider the array A[ ]= {5,4,9,1,3} apply the insertion sort to sort the array. ***1 point***
Consider the cost associated with each sort is 25 rupees, what is the total cost of the insertion sort for sorting the entire array?

a) 25
b) 50
c) 75
d) 100

Yes, the answer is correct.
Score: 1
Accepted Answers:
c) 75

6) Select the code snippet which performs unordered linear search iteratively? ***1 point***

a)
```
int unorderedLinearSearch(int arr[], int size, int data)
{
   int index;
   for(int i = 0; i < size; i++)
   {
      if(arr[i] == data)
      {
         index = i;
         break;
      }
   }
   return index;
}
```

b)
```
int unorderedLinearSearch(int arr[], int size, int data)
{
   int index;
   for(int i = 0; i < size; i++)
   {
      if(arr[i] == data)
      {
         break;
      }
   }
   return index;
}
```

c)
```
int unorderedLinearSearch(int arr[], int size, int data)
{
   int index;
   for(int i = 0; i <= size; i++)
   {
      if(arr[i] == data)
      {
         index = i;
         continue;
      }
   }
   return index;
}
```

d) None of the above

Yes, the answer is correct.
Score: 1

Accepted Answers:

a)
```
int unorderedLinearSearch(int arr[], int size, int data)
{
   int index;
   for(int i = 0; i < size; i++)
   {
      if(arr[i] == data)
      {
         index = i;
         break;
      }
   }
   return index;
}
```

7) ***1 point***

What will be the output?

```
#include<stdio.h>
#define func1(a,b) a > b ? b : a
#define func2(a,b); {temp=a;a=b;b=temp;}
int main()
{
   int a=3, b=5,temp;
   if((3+func1(a,b)) > b)
   func2(a,b);
   printf("%d %d", a,b);
   return 0;
}
```

- a) 3 5
- b) 3 0
- c) 5 0
- d) 5 3

Yes, the answer is correct.
Score: 1

Accepted Answers:
d) 5 3

8) Consider an array of elements arr[5]= {5,4,3,2,1}, what are the steps of insertions done while doing insertion sort in the array. ***1 point***

a)
```
4 5 3 2 1
3 4 5 2 1
2 3 4 5 1
1 2 3 4 5
```

b)
```
5 4 3 1 2
5 4 1 2 3
5 1 2 3 4
1 2 3 4 5
```

c)
```
4 3 2 1 5
3 2 1 5 4
2 1 5 4 3
1 5 4 3 2
```

d)
```
4 5 3 2 1
2 3 4 5 1
3 4 5 2 1
1 2 3 4 5
```

Yes, the answer is correct.
Score: 1

Accepted Answers:

a)
```
4 5 3 2 1
3 4 5 2 1
2 3 4 5 1
1 2 3 4 5
```

9) ***1 point***

What will be the output of the following C code?

```
#include <stdio.h>
#if A == 1
   #define B 0
#else
   #define B 1
#endif
int main()
{
   printf("%d", B);
   return 0;
}
```

- a) 0
- b) 1
- c) 01
- d) None of the above

Yes, the answer is correct.
Score: 1

Accepted Answers:
b) 1

10) ***1 point***

What will be the output?

```
#include <stdio.h>
#define a 10
int main()
{
  printf("%d ", a);
  int a=50;
  printf("%d ", a);
  return 0;
}
```

- a) 10 10
- b) 10 50
- c) 50 50
- d) Compilation error

Yes, the answer is correct.
Score: 1

Accepted Answers:
d) Compilation error