

Programming Assignment-21

Question 1:

Ans.

```
def next_in_line(lst, num):  
    if len(lst) == 0:  
        return "No list has been selected"  
    lst.append(num)  
    lst.pop(0)  
    return lst
```

Examples

```
print(next_in_line([5, 6, 7, 8, 9], 1))    # → [6, 7, 8, 9, 1]  
print(next_in_line([7, 6, 3, 23, 17], 10)) # → [6, 3, 23, 17, 10]  
print(next_in_line([1, 10, 20, 42], 6))    # → [10, 20, 42, 6]  
print(next_in_line([], 6))                 # → "No list has been selected"
```

Question 2:

Ans.

```
def get_budgets(lst):  
    return sum(person["budget"] for person in lst)
```

Examples

```
print(get_budgets([  
    {"name": "John", "age": 21, "budget": 23000},  
    {"name": "Steve", "age": 32, "budget": 40000},  
    {"name": "Martin", "age": 16, "budget": 2700}  
])) # → 65700
```

```
print(get_budgets([
```

```
{"name": "John", "age": 21, "budget": 29000},  
{"name": "Steve", "age": 32, "budget": 32000},  
{"name": "Martin", "age": 16, "budget": 1600}  
])) # → 62600
```

Question 3:

Ans.

```
def alphabet_soup(s):  
    return ''.join(sorted(s))
```

Examples

```
print(alphabet_soup("hello"))    # → "ehllo"  
print(alphabet_soup("edabit"))   # → "abdeit"  
print(alphabet_soup("hacker"))   # → "acehkr"  
print(alphabet_soup("geek"))     # → "eegk"  
print(alphabet_soup("javascript")) # → "aacijprstv"
```

Question 4:

Ans.

```
def compound_interest(p, t, r, n):  
    amount = p * (1 + r / n) ** (n * t)  
    return round(amount, 2)
```

Examples

```
print(compound_interest(10000, 10, 0.06, 12)) # → 18193.97  
print(compound_interest(100, 1, 0.05, 1))     # → 105.0  
print(compound_interest(3500, 15, 0.1, 4))    # → 15399.26  
print(compound_interest(100000, 20, 0.15, 365)) # → 2007316.26
```

Question 5:

Ans.

```
def return_only_integer(lst):  
    return [x for x in lst if isinstance(x, int)]
```

Examples

```
print(return_only_integer([9, 2, "space", "car", "lion", 16]))    # → [9, 2, 16]  
print(return_only_integer(["hello", 81, "basketball", 123, "fox"])) # → [81, 123]  
print(return_only_integer([10, "121", 56, 20, "car", 3, "lion"]))  # → [10, 56, 20, 3]  
print(return_only_integer(["String", True, 3.3, 1]))              # → [1]
```