Question 1:

#!/bin/bash

arr1=(1 3 5 7 9)

arr2=(2 4 6 8)

merged=()

i=0

j=0

while [[ $i < ${#arr1[@]} && $j < ${#arr2[@]} ]]; do

if [[ ${arr1[i]} < ${arr2[j]} ]]; then

merged+=(${arr1[i]})

((i++))

else

merged+=(${arr2[j]})

((j++))

fi

done

while (( i < "${#arr1[@]}" )); do

merged+=(${arr1[i]})

((i++))

done

while (( j < "${#arr2[@]}" )); do

merged+=(${arr2[j]})

((j++))

done

for ((k=0; k<${#merged[@]}; k++));

do

echo "${merged[k]}"

Done

Question 2:

#!/bin/bash

declare -A freq

arr=(1 2 2 3 3 3)

for e in "${arr[@]}"; do

((freq[$e]++))

done

for e in "${freq[@]}"; do

echo "$e: $freq[$e]"

Done

Question 3:

#!/bin/bash

arr=(1 2 3 4 5)

rev=()

for ((i=$((${#arr[@]} - 1)); i>=0; i--)); do

rev+=(${arr[i]})

done

for ((i=0; i<${#rev[@]}; i++));

do

echo "${rev[i]}"

Done

Question 4:

#!/bin/bash

arr=(2 1 3 9 4 5 7 6)

largest=${arr[0]}

second\_largest=${arr[0]}

smallest=${arr[0]}

second\_smallest=${arr[0]}

for e in ${arr[@]};

do

if [[ $e < $smallest ]]; then

second\_smallest=$smallest

smallest=$e

elif [[ $e < $second\_smallest ]] && [[ $e != $smallest ]]; then

second\_smallest=$e

fi

if [[ $e > $largest ]]; then

second\_largest=$largest

largest=$e

elif [[ $e > $second\_largest ]] && [[ $e != $largest ]]; then

second\_largest=$e

fi

done

echo "Second Largest: $second\_largest"

echo "Second Smallest: $second\_smallest"

Question 5:

#!/bin/bash

arr=(1 2 3 2 1)

palindrome=true

n=${#arr[@]}

for ((i=0; i<n; i++)); do

bi=$(($n - $i - 1))

if [[ ${arr[i]} != ${arr[bi]} ]]; then

palindrome=false

break

fi

done

if [[ $palindrome = true ]]; then

echo "It's a palindrome"

else

echo "It's not a palindrome"

fi